

*ON NATURE'S PROTOTYPES: CHARACTER DESIGN AND
WORLDBUILDING*

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ON NATURE'S PROTOTYPES: CHARACTER DESIGN AND WORLDBUILDING

A THESIS SUBMITTED TO THE

HONORS COLLEGE

IN PARTIAL FULFILLMENT OF THE

REQUIREMENTS FOR HONORS IN THE DEGREE OF

BACHELOR OF FINE ARTS

DEPARTMENT OF ART

COLLEGE OF THE ARTS

BY

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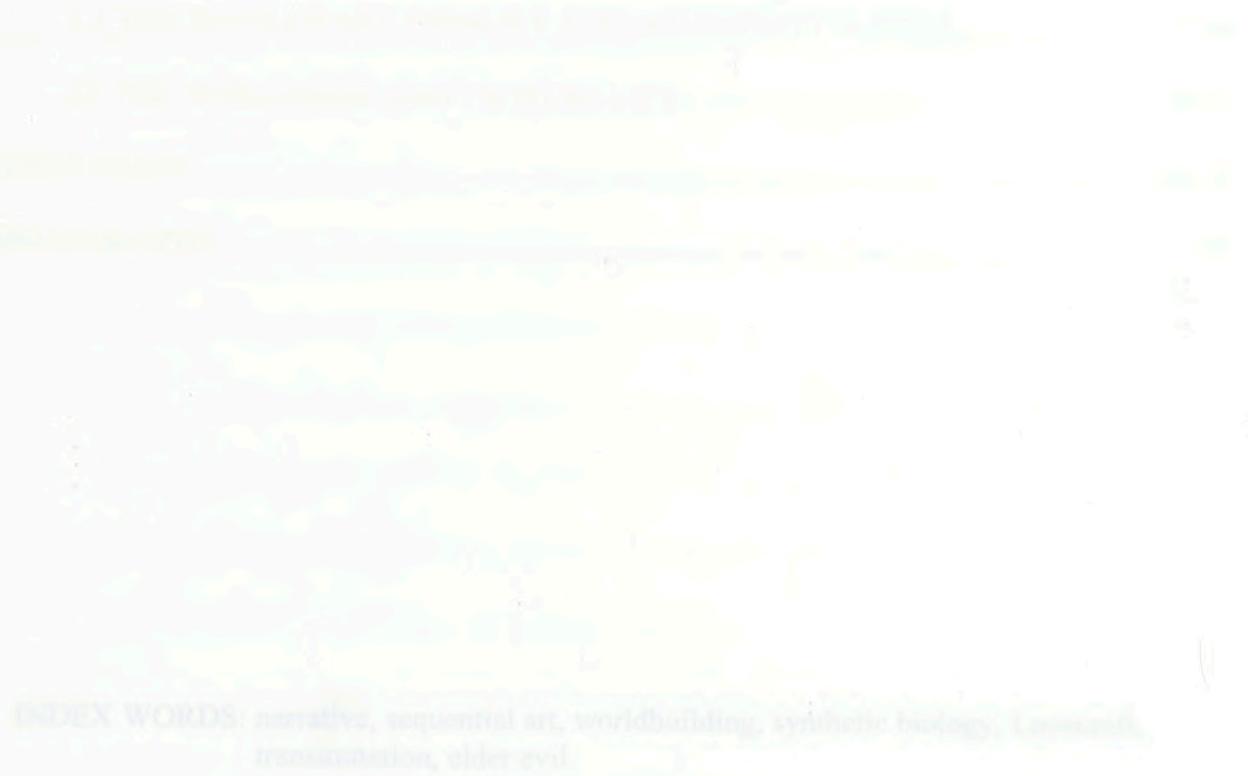
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ABSTRACT

Nature's Prototypes is an ongoing narrative series that blends science and fiction to contrast both didactic plot structures and image sets. For substance, the series utilizes biological organisms into fields, like ecology, pathology, and bioengineering, to imagine active-curious vegetants, where mundane to monstrous characters become the protagonist/actors in a post-thylogenetic landscape. Throughout these vignettes, the characters are connected to the trials and tribulations of the vegetants and lives that are imposed upon them. In the series' larger scope, these vignettes are sequential events within a larger timeline and an original mythos that drive onto the organizations and the intrigue surrounding the idea of synthetic organisms – both artificial and naturally evolved. Conceived in nature, the series functions as a continual framework for depicting and defining the eclectic relationships found between the aforementioned fields.

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INDEX WORDS: narrative, sequential art, worldbuilding, synthetic biology, *Lamprospadix*, transmutation, elder owl

ABSTRACT

Nature's Prototypes is an ongoing narrative series that blends realism and fiction to create both dialectic plot structures and image sets. For substance, the series utilizes biological inquiries into fields, like ecology, pathology, and bioengineering, to imagine action-centric vignettes, where animalistic to monstrous characters become the predominant actors in a post-dystopian worldscape. Throughout these vignettes, these characters are subjected to the trials and tribulations of the catalysts and flux that are imposed upon them. In the series' larger scope, these vignettes are sequential events within a larger timeline and an original mythos that delve into the implications and the intrigue surrounding the idea of synthetic organisms – both artificial and naturally evolved. Conceptual in nature, the series functions as a continual framework for exploring and deducing the eclectic relationships found between the aforementioned fields.

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INTRODUCTION

Quite the literal prototype, itself, *Nature's Prototypes* is an ongoing science fictional, narrative series by, myself, Taylor Bardon, both a digital illustrator and a sequential artist based in Columbus, Georgia. The series' conception began circa late 2016 as I began to meditate upon where to and how to develop my personal portfolio during my undergraduate studies under Columbus State University's Department of Art. Through a combination of my analytical personality and my continual consumption of media entertainment, I settled on attempting to establish an original, narrative series that emphasizes worldbuilding and character design.

Within the choice of using worldbuilding as a focal point, the series became a large undertaking for consolidating major, storytelling elements and visual design. The former deals with chronology and exposition, while the latter deals with chosen media and possible demographics. Generally, as these elements attain cohesion, a new, imposing element may upheave this cohesion. This instability comes from me seeking to create works that are both dialectic in their proposed narrative structure and sensorially appealing in how they mesh together into a unified, visual style.

Especially during the series' conception, the key to consolidating these elements was through focusing on a central, thematic subject. However, such a subject would need to contain a vast degree of realism in both the interactions happening and relationships existing within an enlivened world. For me, these broad considerations became addressable through researching the scientific field of biology. In particular, the classic theme of man versus nature further focused in the scope of my research as biology, itself, is an inarguably extensive subject. As built upon conflicts, the series' tone and imaginings became attributable as narrative vignettes about action-centric scenarios. Within these vignettes, animalistic to monstrous characters became the

predominant actors in a post-dystopian worldscape. Here, I often frame them as being subjected to the trials and tribulations of the catalysts and flux that are imposed upon them.

Both the emotional masks and logical stances that these characters metaphorically wear and mentally exhibit are surmisable as distancing in their alien aspects due to their supernatural, adaptive physiologies and evolutionary histories. A further is conducted through conceptualizing them as fragmented, artificial, fabricated, synthesized, etcetera. With manmade influences being the primary cause, these character either evolved or laid dormant within the narrative's scope. The imposed catalysts and flux are these manmade influences among other supernatural phenomena as the series' chronology has been continually extending to encompass a past timeline, referred to as the Prequel, and a concurrent timeline, referred to as the Post-Cataclysm.

The reasoning for having two interconnected timelines is what I will be partially explaining in the following sections, but primarily it became a logical, utilitarian choice to allow the series' breadth when contending with biological evolutions and ecological trajectories. These aspects hold the capacity to ground the more fantastical/mystical elements inherent in the series, such as creatures describable as living natural disasters and others that have a high, almost universal transmutability. Grounding the equivalent of materialized metaphysics with empirical concepts directly reflects within my explanations on and descriptions of the series: generally complex to convoluted. Just as one will be able to glean from my discussion of the timelines in the following chapters, this writing's lexicon will be as vast as the series' worldscape.

As the series is now, it is mostly conceptual. Within *Nature's Prototypes*, its visual design proposes one of the greatest, yet rewarding, difficulties within its development. In its earliest development, the chosen media for the series was mostly focused on animation practices and the pursuit of therefore. Animation proposed a framework for creating shorter works and,

subsequently, shorter insights into either the broader, thematic strokes relating to man versus nature or the imagined characters'/creatures' potential dynamism in their physics and anatomical structures. Ultimately, animation, by itself or as the primary medium, became too detached from what I eventually felt I needed to prioritize. Rather being too indifferent from successful ~~and for~~ animation practices, my new priorities revolved around the idea of naturalism as conducted through illustration. Being naturalistic within my illustrations comes from my desire to attain an adeptness at rendering the series' character designs within a tighter span of realistic, visual accuracy and believability. In contrast, trying to attain a photorealistic precision of my imagined designs is not incredibly desirous for me. My stylistic aim is more about understanding the organisms and environments I develop within a more rounded context. For these imagined organisms, I am interested in their realistic parallels' ecologies and adaptations, which would comprise their hybridized selves. For these imagined environments, I am interested in their geological mechanics and shifting natural boundaries that would constitute them as inhabitable.

In physical form, I have been producing illustrations for a body of work I entitled the *Theatre Tapestry* series. Multiplicitous in nature, this body of work is focused on rendering the core subjects and factions as dramatic, symbolic, and vector-based illustrations. This series' different visual styles, as between its illustrations, have their slight differences in the figural subject's conflation, abstraction, and ornamentation. These stylistic differences are determined as subjects' associations to the source material (i.e., *Nature's Prototypes*) are fleshed out. Aesthetically, the unifying, stylistic elements within this series are the erasure between overlapping visual elements and sparse, textural renderings among flat, black-tone shape groups. Conceptually, these illustrations' stark flatness and organic shapes function as eventual, interchangeable symbols within the scope of the source material. Namely, they potentially would

be seen as reoccurring pictorial symbols that the inhabitants within the fictional world would interface with. The aforementioned is especially true for the smaller, inlaid, and symbolic pieces that depict subsets within the individual factions or collectives. The larger, symbolic pieces are narrower in their conceptual application within the source material as they would be reserved for prominent material culture and literary items.

In relation to illustrating such artifacts or civilized elements within *Nature's Prototypes*, I have, also, begun to explore bookmaking design practices under a project titled the *Alabaster Archive*. This project revolves around the continual drafting and creation of a compendium that gives dossiers on figural subjects and locations within the source material. In essence, this compendium functions more expressly as a bestiary-of-sorts that gives gradual, eclectic insights into the worldscape as I and, by extension, the fictional scholars within the series compose my and their findings. Largely still in its infancy, the *Alabaster Archive* is another undertaking in visual design altogether different from the *Theatre Tapestry* series as I seek to develop a shifting, aesthetic style that reflects the subject being discussed on its pages as structured by intermittent chapters. The self-imposed design challenges I face mainly involve developing unique font styles, border detail, and language tones that constitute possibly one of the only written books contained within the series. For narrative reasons, the series' greater inhabitants are less concerned about cataloguing a world still in flux as they vie for survival and, for some, an outlying understanding of this flux's cause. In actuality, this compendium will hopefully act as a comprehensive guide for the elements at play within my series for my audience.

Moreover, in the following sections, I will be discussing more about my concurrent insights into *Nature's Prototypes'* character design and worldbuilding through discussing some

of my biological inquiries/imaginings and some of my narrative mode's inspirations as closely related to the series' greater exposition.

Nature's Prototypes and Synthetic Biology

Reflecting back on the extensive nature of biology, the biological framework that *Nature's Prototypes* is primarily based on is a field called synthetic biology. This field's proposed bioengineering differs from most existing theories in the idea of "BioBricks," or bioparts line, involves a bottom-up approach through developing standardized, interchangeable genetic sequences that are inserted in cell genes.¹ Synthetic biology's BioBricks differ from existing genetic engineering as the field is exclusively focused on the creation or the modification of individual cells, especially unicellular organisms.² In contrast to mimicking known cellular genomes, the creation of true protocells remains a future endeavor given the field's "ultimate" goal is to create synthetic organisms that are independent of normal, orthodox biology, such as lacking conventional biomolecules, DNA, and other vital trappings.³

As previously cited, the series' worldscape is marked by not only an ongoing flux, but also, catalysts exist in the form of synthetic organisms, their genetic bases, and their environmental stimuli. Roughly separated between polyphyletic groups, the endemic life within the Post-Cataclysm timeline has undergone several distinct evolutionary cycles. These cycles are denoted by a gradual melding between different phyla primarily within the Animalia kingdom, especially when concerning earthen traits and aquatic traits. The ratio in which these traits mesh together is mostly weighed towards earthen traits for the majority of the endemic life's overall physiologies and niches. In the scope of the aforementioned timeline, any aquatic traits are usually vestigial due to the current evolutionary state of organisms being predominantly land-based.

CHAPTER ONE

1.1 SYNETHIC ORGANISMS AND THE UNORTHODX

Generally, unlike the biologically orthogonal and the more biologically standard phyla that

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The phyla in question are commonly titled as: *kinsfolks*, *nightstalkers*, and *dredgers*.

Each of these phyla contain a multitude of different biological quirks and synthetic histories.

Generally, unlike the *kinsfolks*, *nightstalkers* and *dredgers* are both grossly evolved phyla that are distortions of basic, non-human animal life.

Nightstalkers take the guise of predatory animals, especially from the Canidae family, with physiologies adapted for visceral, offensive behavior. As aptly named, *nightstalkers'* temperaments are describable as being akin to rabid, feral animals that play the roles of being nightmares, neighbors, and natural resources for the world's civilized species. While their temperaments are better suited to solitary lifestyles, some species may exhibit more social tendencies and form family units, such as packs. Their breeding practices follow a type of parthenogenetic reproduction, but paired mates are the natural occurrence for rearing offspring in order to avoid weakening their lineages' already fickle, genetic structures. Physically, like most of the series' organisms, *nightstalkers* are composed of a tegument-like composition for the majority of both their internal organs and external layers. Based off a tegument's multinucleated properties, the lack of distinction between their tissues' cellular boundaries results in most *nightstalker* offspring, known as *whelps*, appearing as pared-down, skeletal copies of their parents. Overtime, these offspring increasingly synthesize mass from detritus that is either absorbed from their habitat, similar to a plant, or from fresh, supplemented carrion.

Moreover, *nightstalkers'* nightmarish quality stems from the series' organisms' aforementioned, high transmutability, where they have the capacity to drastically change their physiologies to create a potential reversal within fight-or-flight scenarios. Both this transformative capacity and the extent that their physiologies biologically allow them are not infinitesimal. Their forms range from pseudo-humanoids to polychaetes, where the latter is a

vestigial, critically stressed form with limited chances of survival. Such a form only occurs once a nightstalker has reached its genetic limit. However, in the event that a nightstalker becomes an apex predator within its ecosystem, it can reach an intermediate, stabilized state known as *redlining*, where its transformative capacity has effectively become stunted, yet specialized, as it hybridizes between its various, base forms.

Comparatively, dredgers are a much more enigmatic phyla of organisms. Essentially biomachines, they are tightly packed colonies of microbial organisms contained within a geode-like organ – plainly referred to as a geode. From this geode, they develop a macroscale, tapering body composed of a hallowed, metallic carapace lined with venting recesses and tunneling appendages. Their metallic structures are due to their niche of being autonomous terraformers that seek to colonize rich, mineral deposits for breeding grounds. Breeding is done through parthenogenetic reproduction, where a fertile dredger, demarcated by a swollen geode, fractures its geode into one or more separate shards. These shards are lodged into tunneled-out, mineral crevices within their breeding grounds, where the shards, then, expand to create an equivocal clone of their parent.

Due to their terraforming nature, dredgers are relatively simple, yet incessant, organisms for the world's civilized species as they hold territorial-claim on the aforementioned mineral deposits. Dredger populations are innumerable as they can and have adapted for all matters of biomes, where they prove to be invasive pests or, in some cases, dormant threats. Their ravenous behaviors are almost entirely geared towards a habitat's mineral concentrations, where they go into a state of dormancy if there are low amounts. Due to being a commonality in most inhabitable areas, civilized species grew to utilize more organic construction material in the form of different types of biomass – mostly procured from nightstalkers and flora – for developments

ranging from housing to weaponry. However, as intellectual capacities grew, these species have formed strategies for exploiting the dredgers' autonomous behavior for their advantages and own material gain. Mutual, interspecies relationships, such as basic animal-husbandry, are uncommon in most civilized spaces, but, given that transmutability is commonplace, there are other avenues for "domestication."

Beyond the monstrous, kinsfolks are perhaps the most complex of the phyla as they exhibit appearances, personalities, and niches evocative of mankind. Appearance-wise, they are anthropomorphized, animalistic humanoids that range from any macroorganisms within the Animalia kingdom. Usually, either land-dwelling carnivorous species or omnivorous species are the dominant animalistic bases for their hybridized selves. Anatomically, they have similar compositions to nightstalkers. However, unlike the bestial nightstalker, kinsfolks contain the greatest intellectual capacity of any of the endemic life, hence they are the "civilized species" in previous references. Beyond just instinctual cognition, kinsfolks develop mental complexities in emotive personalities and societal roles.

However, it took them no complex thought to live together in close-knitted groups due to the world's flux and their more predatory neighbors. With increasing complexities in societal structures, the greater concept of a "kinsfolk civilization" is established through the allying between clans throughout the cultivated lands. These alliances form a loose, yet honored, group known as the *Frontiersmen*. A frontiersman plays a multifaceted role within their clan societies, ranging from being domestic peacekeepers to opportunistic pathfinders. The common threading between their activities and their agencies lies within their moniker: the greater lot of them keep to the frontiers' wild boundaries in order to solemnly give an attempt at suppressing the world's constant flux and catalysts – if only for a short time.

In truth, kinsfolks have evolved from familiar, common ancestors, but their evolutions are more fabricated in lieu of a greater purpose than simple, adaptive survival. They are essentially the posthuman within *Nature's Prototypes* as their earliest, surviving ancestors were inoculated with a modified genome that contains a fragmented, yet extensive, archive of a past world's intellectual and cultural systems. This past world hails from an offshoot of the modern Anthropocene, where the chronological shift from the fallout of the Prequel timeline resulted in certain parties' unwavering experimentations at preserving their species' lineage.

One such experiment became the prime candidacy for containing such: genetically preserved, non-human animals. This genetic-preservation is equivalent to conservation practices, where the partial aim was to conserve the natural, genetic composition of endemic life. In what will be touched more in-depth later on, the past landscape was marked by a wholistic embrace of bioengineering as the new, technological paradigm – even more so than digital and informational technologies. While not entirely just for novelty, the conservation of these purist species became paramount for keeping a genetic marker and metric needed to facilitate this advancing bioengineering's regulation and progress. Having a bona fide, genetic tabula rasa seemingly proved its worth for the past inhabitants as they faced planetary extinction – at least in sentiment for some.

While science-fictional in its outlook, the inoculation of this modified genome containing a fragmented, human lineage is not too dissimilar from practices seen within actual synthetic biology. In an experiment conducted by researchers at the J. Craig Venter Institute, or JCVI, the genome of a bacterium, *Mycoplasma capricolum*, was successfully synthesized and inserted into another closely related species, *Mycoplasma mycoides*.⁴ The new species, titled *Mycoplasma mycoides* JCV1-1.0, was the first draft of a synthetic organism that is not too dissimilar from

their progeny.⁵ This synthetic bacterium featured their creators' email addresses, names, and some inspirational quotes encoded within their genetic sequences.⁶ Within the context of the series, such genetic experiments would pale in comparison to the magnitudes and the trajectories expectable within an alternative, global culture focused on retrofitting biotechnologies as efficient, infrastructural replacements.

For kinsfolks, past humanity's superimposed, genetic imprints resulted in an imperfect copy of the original. While partially humanoid in their genomes and their cognition, kinsfolks are distorted in other faculties, more so than in just their animalistic characteristics. Their ontogeny follows cyclical, reincarnation-esque processes. They are precocially born at a late, mature stage of development that is comparable to late, teenage years in a typical human being, from either heterosexual couplings or asexual reproduction, where the former ontogeny is in rare cases for certain kinsfolk species. These offspring are a special occurrence in most kinsfolk societies as their natural, fertility cycle only happens once: just before death. Upon this precipice, the parents or the parent gives birth to no more than two offspring. Namely, an offspring for each parent or, in essence, a renewed lifecycle for each individual. Typically, no reverie between parents and children is had as the life-givers transfer their own biomass into the new progeny or self.

With each new iteration, kinsfolks continually evolve within a cycle known as the *Awakening*. It is a three-step, evolutionary cycle, where the kinsfolk individual becomes increasingly less animalistic in his or her physiology, mannerisms, and abilities. For the first stage, known as *sleepers*, kinsfolks are mostly cognitively narrow-minded in their pursuits as they are at odds with the external stimuli assailing them from all environs – physical or mental. Their life lessons and associations are mostly intact with their rebirth, but their core concerns and values may drastically shift without the proper conditioning.

For the second stage, known as *dreamers*, kinsfolk take on more sapient characteristics in both mind and body, such as the truncating of muzzles and loss of fur layers, when discussing appearance. Mentally, each individual begin to involuntarily recall unfamiliar concepts in the form of lucid dreams and fearful figments. Eventually, these newfound thoughts, mostly regarded as disturbing by most, surge into their daily life as inescapable desires to see them manifested into reality. More than just a simple disturbance for the dreamer at that point, other kinsfolks may be seen merely either as obstacles or resources within the dreamer's grand scheme. However, the severity of these thoughts are usually not too drastic, where it, instead, instills a deep-seated wanderlust in the dreamer to pilgrimage to imagined sites and remnants of the "old world." This situation is usually more wholeheartedly adopted by kinsfolk societies as if a dreamer gets out of hand they will either exile them or cease their ravings through lethal force.

More intermediate resolutions for acclimating a dreamer into a coherent state unfortunately is solely the preexisting conditioning under the roles he or she prior served within kinsfolk society. Societal values – emphasis towards autonomy and receptiveness in a clan's often shifting, hierarchical structure – hugely revolve around the Frontiersmen's tenets and operations. The majority of kinsfolks, since their sleeper stage, enter the organization with a mindset attributable to viewing it as a civil duty or societal service. Therefore, the aforementioned exiling and lethality are incredibly uncommon measures. As cherished within an unforgiving world in flux, the residual honor and companionship a dreamer holds from his or her past life commonly means suppressing his or her greater, subjective urges.

For the final stage, known as *awakeners*, kinsfolks have fully molted the greater part of their animalistic countenance, and, in turn, most of their supernatural attributes, such as heightened senses and physical prowess. This molting has, also, warped their appearance into

more bipedal, balding humanoids. However, this enfeeblement only really extends as far as their physiques, and it is otherwise not a grave concern for an awakener. In order to even reach this final stage within their lifecycles, they have long since proven their mastery over the shifting world in overcoming not only its wilder adversaries but their own estrangement from their fellow kinsfolks. In the earliest tales, an awakener's lifestyle was described as mostly being solitary. As even in their past life, they were infamously regarded for the trepidations that they posed to kinsfolk societies as catalysts that could dismantle what little solace their pocketed societies wrestled from the greater, wild world. In actuality, the awakener has either been still in pursuit of their imagined lands or has ceased doing so. The latter is not due to do a petty reason, such as viewing their inherited memories as senseless; it is because they have discovered the heart of their feverish thoughts: an anachronistic truth.

Within the worldscape, outlying isles, collectively known as the *Satellite Lands*, surround the mainland's greater, natural perimeter. Whereas the mainland is an expansive territory comparable to Pangaea, the isles were nestled away because of the shifting, natural barriers caused by immense demi-beings, known as *colossi*, as they migrate between their long-treaded domains. For the awakeners, the connection between the colossi and these isles became their galvanizing cause to further conceal these isles' existence.

Forming a select collective, known as the *Fringeweavers*, a majority of awakeners took up occupancy within a frontier that most Frontiersmen would falter in. They found that the old world's remnants do exist, but within a state of solemn decrepitness traceable to its acrid atmosphere. Throughout the landscape, past, organically composed cityscapes line the horizon as cystic formations of unknown biomasses latch onto the landscape and buildings' facades. Mostly inactive from inside the urban sprawls, aside from the gestating cysts, awakeners began to detect

a distinct, aural humming reverberating throughout the cityscapes. Following these enigmatic reverberations, these individuals came to discover organic telecommunications towers as the noise's source.

The trek to these ambiguous towers produced a gradual clarity in the reverberations' purpose: messages. In a staccato rhythm, they hummed, "Preserve the past...masters of our own...reclaim the Conservers'...facsimiles." Alongside this message and an acrid atmosphere, the earliest awakeners approached these towers and came to a hellish discovery. Bursting from the cysts clasped onto these towers, were tar-like, humanoid, and organic constructs seemingly suspended from the air as if they were hanged corpses. Upon this encounter, the constructs quickly assimilated the majority of these early awakeners. Beyond this grotesque display, after seemingly absorbing enough biomass from their victims, the constructs reverted back to a dormant state as they reintegrated with their native towers. As they did so, the towers appear to swell in size, where, subsequently, their transmitted messages were noticeably boosted in signal range and their phrasings' minute clarity. The fortunate survivors of these encounters, the Fringeweavers, effectively established a "quarantine" around these isles in order to safeguard ignorant awakeners from suffering an undo fate and, in their own fears, perpetuating the towers' growths.

Over this weighed occupancy, the Fringeweavers had conducted a great amount of both reflection and synthesis on the Satellite Isles' anachronistic nature and purpose. Their findings chronicled the first mention of the *Masters*, the apparent, past rulers of the known world. The Fringeweavers separated them based off an obvious, yet profound, feud: the *Preservers*, those that held de jure power and sought to save their civilization from ruination, and the *Conservers*, those that somehow thwarted the opposition and sought to guide the world to what it currently

became. Also, among their findings, a liminal, yet incessant, message was uncovered about an organism known as the *umber cell*, the apparent “BioBrick” of their time. Identifiably, though it was an effective medium for reshaping the world during the past, the *umber cell* apparently became the Masters’ undoing, especially for the Preservers, as they did not ultimately have a wholistic understanding of its invasive nature. This waterborne organism took on a myriad of infectious, biological forms, such as prions, viruses, and bacteria, and its evolution occurred within two distinct paths – one that is artificial and one that is natural. The apparent, evolutionary dichotomy between the resulting world’s endemic life means that the kinsfolks’ cellular basis was engineered to serve some kind of anachronistic dogma.

In a realistic context, through the incorporation of core, biological concepts, such as modularity, into synthetic biology’s objectives, this field could present revolutionary technologies and alternatives to existing, faulty technologies. In future projections, this field is assumed to replace existing infrastructures and create standardized, yet translatable, parts.⁷ For example, sugar, “...the substrate on which cells would operate to produce new goods,” would no longer be the primary, industrial commodity as cellular factories become commonplace as manufacturers and suppliers.⁸ These new goods would be standardized, interchangeable genetic constructs that, when inserted into a cell’s genes, could develop BioBricks.⁹ In essence, these new, industrial revolutions rely on attempts to engineer biological constructs, like parts, systems, and organisms, which serve particular, human functions.¹⁰

To accommodate human needs, synthetic biology will require the recycling and repurposing of both engineering and design concepts in order to mimic biology’s malleability. Drawing on sustainability, synthetic biology’s “living machines” could provide advantages over

today's machines as they would continue to do in their environments with no knowability.¹²

This potential coexisting relationship between living machines and ecosystems

1.2 PARADIGM SHIFTS AND THE UMBER CELL

in how humans affect environments.¹³ At the end of the twentieth century, increasingly

With the past world's lingering pulse still thrumming within a future world, these Master figures, a past, biotechnologically fixated human species, proved they possessed an unabashed ethos for the transformations the umber cell proposed and naturally wrought. While the Prequel timeline mostly is inexplicit in its full history, synthetic biology's bioethical concerns for synthetic life's intrinsic value can help to frame the past world's own ethical concerns and sociopolitical intrigue, albeit through some necessary extrapolations due to the subject's magnitude.

In a realistic context, through the incorporation of core, biological concepts, such as sustainability, into synthetic biology's objectives, this field could present revolutionary technologies and alternatives to existing, faulty technologies. In future projections, this field is estimated to replace existing infrastructures and create standardized, yet translatable, parts.⁷ For example, sugar, "...the substrate on which cells would operate to produce new goods," would replace oil as the primary, industrial commodity as cellular factories become commonplace as manufacturers and suppliers.⁸ These new goods would be standardized, interchangeable genetic sequences that, when inserted into a cell's genes, could develop BioBricks.⁹ In essence, these massive, industrial revolutions rely on attempts to engineer biological constructs, like parts, systems, and organisms, which serve particular, human functions.¹⁰

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today's machines as they would evolve alongside their environments with an innate sensitivity.¹²

This potential coexistence could bridge the difference between pure exploitation and symbiosis in how humans affect environments.¹³ At this stage, the value of bacteria becomes increasingly heightened as these unicellular organisms are used as a production mechanism, namely for BioBricks.¹⁴

This heightened sense is evident in how environmentalism portrays synthetic organisms with varying degrees of subjectivity and objectivity when determining their intrinsic worth.¹⁵ For these values, the cultural shock waves producible by synthetic organisms are based on how societies currently perceive them as lacking natural life's objective values, such as wildness and having a natural, evolutionary history.¹⁶ Currently, subjective values are the strongest basis for synthetic organisms.¹⁷ These values include the basic, biological interests, goals, and purposes found in natural life. In other scenarios involving synthetic organisms' descendants, new, natural histories may develop, where the "living technologies" become autonomous and subjected to natural selection.¹⁸ The special value that environmentalists attribute to natural organisms, namely that they are alive, could be applied to synthetic organisms, despite their synthetic characteristics and classification as manmade artifacts, given their evolutionary potentials.¹⁹

As previously highlighted, the past humanity in *Nature's Prototypes* conducted an infrastructural shift from mechanical means to biological means. The umber cell's discovery, cultivation, experimentation, and application in a societal sense were not, of course, immediate. The paradigm shift would intermittently occur in respect to institutional and public sensibilities. As such, the biotechnologies' earliest forms developed from more mechanical applications. Starting from a place that masses both find familiarity and expediency in interfacing with meant that their biotechnology could casually walk through the proverbial door of allowance to become

increasingly commonplace. Biofuel technology would be, perhaps, the most applicable forerunner for developments due to the commodity's and service's perceivable disconnection from creating new lifeforms – fire and forget in the general sense. However, the cellular manufactories for these biofuels would require the venture startup and the revenue securities granted by savvy special interest groups. These founding individuals became both the progenitors of the Preserver movement and the artificial umber cell's fabricators.

From biofuel technology, greater allowances in biotechnical constructs and project diversity would arise through a combination of powerful branding, exasperated, public opinions; and disaster responses. However, little changes in the advertising business's intrinsic challenges of arresting popular interest and galvanizing the reaped spoils towards continued product development. Advanced enterprises centered on entering into other infrastructural avenues, such as electric power transmission. Engineering microbial biofuels as analogs of a known substance is one matter, but developing macroorganic prototypes was something altogether different. As an example, creating analogous biotechnologies to electric power transmission technologies would involve organic pylons and structures that have above optimal electric-neuronic capacities necessary for sustaining grounding and communications. At first, these electric-neuronic analogs would be sparse due to lacking prior field successes and speculative, environmental ethics. However, as the prototypes did develop thanks to either brand loyalty or permissible merits, these analogs' flaws would become past figments as their technology was finessed.

While the effective replacement of mechanical infrastructure would thrive as more localized, regional ventures, the Preservers' biotechnology would continue to grow in both its reimagining of their contemporary world and the means to manifest their imaginings. Other auspicious factors independent of human agencies greatly helped to forward the Preservers'

developments. Widespread disaster relief would become the next flagship for applying their biotechnologies in a globalized context, where their newest prototypes could be entered into strenuous, resource-driven scenarios. Disaster scenarios, especially natural disasters, and their fallouts were exponentially lessened as these usually unveiled prototypes were dispatched and exercised within the fields. Such disastrous fallouts' adverse effects were intervenable due to the prototypes' designs emphasizing a previously unattainable malleability in responsive application and sustainability in safeguarding against future reoccurrences. The unattainable sentiment lied in how people viewed these prototypes' commendable growths in contrast to previous, historical technological trends. Among their projects' growth factors and field successes, the Preservers would owe it all to their BioBrick: the umber cell.

As successful as they were, the Preservers still faced their own internalized disagreements over policies and procedures as framed under their corporations' BioBrick. Their strides in research still failed to assess the umber cell's widely unknown, genetic, and adaptive response, especially in lieu of its origin. To get a better idea of the Preservers' possible frictional elements, the bioethics surrounding synthetic biology can be assessed.

While synthetic biology is mostly disparate from its other bioengineering predecessors, aside from slight similarities in scientific languages, it still inherits some the ethical concerns and roadblocks common in designing with life, such as disastrous scenarios and Teaching Humanness (TH) claims. For the scenarios, the fear of bioterrorism, especially recreations of historical epidemics and the creation of new kinds of pathogens, and "bioerrorism," or the fear of escaped, synthetic organisms creating ecologically disastrous mutations in natural settings, comprise the two most central concerns for experts and top officials.²⁰ A more global consequence is the fuel required for living machines. Cellular manufacturing poses an

undesirable economic impact on poorer, developing countries, where they might be coerced into replacing certain crops, like food staples, with cash crops, like sugarcane for complex sugars, necessary for biomaterial production and upkeep.²¹

Moreover, teaching humanness claims are another obstacle for synthetic biology's development. These claims provide broad, inconclusive allegations for expressly stating humankind's collective values.²² TH claims' bases primarily share a commonality in changing the technology's discourse or in limiting the number of experts working within the field's technology.²³ While most TH claims have not escalated to the level of "dehumanization," they present "thick" arguments that dissuade policymakers from actively addressing them until they contain a greater degree of specificity in their language.²⁴ In the public sphere, TH claims dispute societal, anthropological values, which creates a bureaucratic battleground that stunts the progression within bioethics.²⁵ When addressing bioethics, synthetic biology's morality greatly involves gauging what the public truly thinks in order to provide the preliminary evidence that would justify or denounce the extent of the field's future implementations.²⁶

The Preservers' successes and the, subsequent, phenomenal growth within biotechnology meant their track record was anything but immaculate. To their advantage, the Preservers proved to be just as malleable and pervasive as their BioBrick within both political arenas and public marketplaces. A tooth-and-nail presentation style was uncommon for most of the Preservers' standing, official proponents; they won their near immeasurable rights to design with life through following bylaws and enduring the brunt of much directed scorn. As they grew to become a powerful presence, the controversies and the allegations surrounding their biotechnologies and their business platform were plentiful but easily met. While the extent of their BioBrick's properties, again, still remained unknown, the artificial umber cell's profound, genetic

reconfigurability left little room for error in their biotechnologies' rollouts, therefore little room for substantiated complaints.

The umber cell, itself, extended past being just a simple protocell chassis – designing new, synthetic organisms. When near its natural, active form as a retrovirus, the umber cell infects either eukaryotes or prokaryotes through a progressive chain of compatible, proximate hosts as it seeks to expand its virulence, especially in terms of population distribution. As a pathogen, the umber cell follows a distorted lysogenic cycle, where it silently replicates in a partial, latent state to effectively saturate the entirety of its host's cellular population. However, unlike most destructive viral strands, the cell autonomously activates under two known triggers once the host's cellular population has been fully saturated. From then on, each trigger revolves around the host's terminal condition, whether through aging or predation, where the latter is the most common cause in natural ecosystems.

When completely saturating a host's body, the umber cell begins a secondary stage of genetically restructuring certain biological functions within the host that would extend its host's life expectancy. The core features of these induced restructurings, at first, enhance the host's overall fitness and survivability, but the endpoint of this process involves a fatal, neoplastic response. The host's mass may potentially double under this endpoint, therefore indicating the umber cell is expending its host's cellular integrity, as governed by the Hayflick limit, in order to swell its own population. These aged, bloated hosts suffer a relative reversal of their previous apex status as either the umber cell undergoes its fatalistic, tertiary stage or another predator preys on the infected host, which results in an immediate hijacking. In the cause of reaching the Hayflick limit, the umber cell causes almost immediate necrosis of the host's infected, vital tissues. For predators, they become the next unsuspecting, intermediate hosts for the previous

host's swelling viral, cellular population. This immediate hijacking typically results in a fatal fusing between the two or more macroorganisms' biomasses as they coalesce into a pitiful, writhing, and necrotic mass.

As the Preservers came to realize, this peculiar behavior is actually meant to facilitate its spread to the next host organism following the time it spent in its intermediate host. From its oceanic origin, the umber cell was originally found to be a type of compact, spheroidal slime mold centered on an accumulation of necrotic tissue. Rather than using oral transmission means at this point, the umber cell's slime mold variant encysts itself into a dormant state, while feeding on its carrion coating and synthesizing viral bodies, to seemingly await for another host organism. Unerringly, it seeks to target certain prioritized candidates that prove to be apex specimens. Although the criteria for "apex status" was subjective at best, the Preservers eventually found a commonality in that the chain of chosen hosts showed increasingly higher degrees of intellect or adaptability. The cell instinctually metered and compared through them successive hosts. Upon finding a prime candidate, the slime mold variant would eject its viral bodies through a cnidocyst-like organelle were, after the full viral process, the new, cellular population would await its fatal trigger for repeating its lifecycle.

Due to mankind's intervention, the umber cell spread beyond its oceanic boundaries and became landborne in the time predating the Post-Cataclysm timeline, but not solely through means of either bioterrorism or bioerrorism. The cellular strain the Preservers' extracted and used for their protocell chassis and, eventually, their recombinant DNA would become an artificial variant of the natural occurrence. The natural umber cell's central aspect involved transmutation, especially in its adaptability in transitioning between biological forms and longevity in sustaining itself during and between hosts. Such fluid transmutability became the

means to establish the basis for a paradigm shift, which would later emphasize a novel, yet controversial, idea: the genetic transhuman.

Transhumanism as proposed by the Preservers as, now, “humanitarian” services involved a reconfiguring of genetic structures, a reengineering of genetic selves, and a redefining of genetic evolution. These offered services sought to change the human condition by alleviating it of its biological vulnerabilities and perceived limitations caused by both external stimuli, such as pathogens and other foreign bodies, and internal faculties, such as congenital disorders and, eventually, trophic needs. The acceptance of these procedures were gradually accepted by the greater, global public due to the Preservers’ successive, and, at this point, widely distributed biotechnologies. In attempts to appeal to the skeptics or wary souls, the Preservers’ corporations – long since unified – established and maintained simpler, introductory gene therapy services, probiotic, pharmaceutical good; and more intermediate DIY-augmentative products.

Despite the possible holdouts, the Preservers cemented their rise to becoming a unifying, supreme power through the public majority’s won devotion and, more infamously, other tactics. In reference to their less than immaculate record, the Preservers’ bounding successes within the bioengineering field immensely projected their original imaginings and altruistic intentions of the world to increasingly idealistic heights of grandeur. They sought to make a manmade utopia or paradise. Slowly both the Preserver’s transhuman subjects and even the unturned individuals would quake before the Preservers’ immanent vision as coercion through chemical agents and “synthetic gaslighters” were issued. At best, freewill became increasingly subjective as the Preservers would not tolerate any gross, unsanctioned indulgence of their often compulsory services or utilities. Ubiquitous, fetishistic, or infringing, genetic imitations would mean quick termination for the offending party or parties. However, through the Preservers’ coercion,

transgressions and terminations where rarities as a near veritable human hive mind came into fruition.

Near is a crucial descriptor for this, now, inhuman project, which became one of the last projects initiated in the new, synthetic world. The Preserver collective would sooner refer to any dehumanizing claim as a perishable, expectable thought from an archaic world's death throes. At this late point, the genetic transhuman had eclipsed the very definition of humanity. Still individually bodied as a devout multitude, the Preservers' transhuman populations were either be lulled or shelled into programmed behaviors and life patterns devised by an oligarchical mastermind, known as *The Artificer*. The Artificer, itself, was a physical avatar of the Preservers' directives and biotechnological legacy. Even into its later, disfigured visage, it eerily exhibited an anomalous, genetic capacity comparable to the umber cell. This incarnated creator and overseer would reach allegorical heights in almost all aspects of its omnipresence. Its only consistent, unchanging feature was a hugely conceited, yet impressionable, decision elected by the Preservers: to embody and to preserve humanity, it, itself, must contain humanity.

Anthropocentric in essence despite its synthetic origins, The Artificer would serve as both an epitaph for past history and an archive for contemporary history. Namely, the Preservers' most valuable minds and bodies, through a line of succession, would both compose and bolster their creation's basis.

During the Post-Cataclysm timeline, The Artificer would become referred to as *The Anachronist*, a truly, ghostly remnant of a buried past. As the Fringeweavers delved into the Preservers' past machinations, they learned why the Preservers were feverishly trying to establish a manmade afterlife. The Preservers were fully, constantly aware of a terrible presence: the natural umber cell.

1.3 THE ANTHROPOLES' FAILURE

The natural umber cell's appearance was not necessarily an unprecedented resurgence so much as a complex arrangement. Since their earliest conception as biofuel manufacturers, the Preservers made a heavily weighted decision when attaining their original sample of the umber cell, given the organism's anomalous nature and subsequent implications. Although the Preservers subjugated their biological subjects into programmed, shelled lifestyles, they were desperately attempting to alter the known planet's proposed, evolutionary fate. Despite their advancements from constituting a total infrastructural shift to biotechnology, they were, again, mostly ignorant of the extent of the umber cell's adaptive nature until it had taken over most of the natural world, where it had already been globally devastating the world's ecosystems. These affected ecosystems were reminiscent of the Satellite Isles' cystic, noxious topography, albeit without the manmade elements. Starting from oceanic biomes, natural life was being reduced to primordial piles of necrotic biomass that served to propagate and to naturalize the environments' conditions for the sole survivability of one species: the umber cell.

To that end, human civilization, especially as guided by the Preservers, had become a bastion for penultimate survival as the Preservers worked in meticulous secrecy trying to engineer countermeasures. Their progressive countermeasures involved implementing hidden protocols within their synthetic organisms, where they would act as macroscale phagocytes under the Preservers' *Anthropoles* project directive. These immunity protocols' effectiveness greatly depended on the interconnected, organic, and infrastructural network that the Preservers long since toiled to put into place. This network – a relative front-of-sorts – both satiated the public mind and postponed their pathogenic genocide. It enabled the Preservers the ability to maintain almost constant surveillance on the umber cell's virulent movements within their network's near,

proximate areas. The natural umber cell, in bouts of adaptive transmutations, would eventually outpace the Preservers' synthetic immunizers. Although they suppressed perhaps hundreds of thousands of viral strains and other pathogenic forms, the later countermeasures they employed focused more on containment rather than purging until they were faced with the residual option of taking more dire measures. In the past, the Preservers established their altruistic philosophy, but, in the future, they adopted less lofty ideals in order to serve a "greater good."

The Preservers' so-called synthetic immunizers were an ongoing endeavor in innovations involving both biological adaptations and social adaptations. They were attempting to preserve more than just humanity. Relatively comparable to actual conservation practices and factors, they were assessing transitory relationships, namely the combination between social, ecological, and social-ecological relationships and their system components. Within conservation sites, the landscapes and seascapes of importance are denoted as *protected areas*, which are those central areas for both halting biodiversity loss and contributing to human well-being and other development goals.²⁷ The former encompasses central strategies for the aforementioned, such as recolonization, restoration, and ecological landscape connectivity.²⁸ The latter accomplishes its goals through provisions granted by ecosystem services.²⁹ Threats to protected areas are both internal factors, such as the overstocking of game species, and external factors, such as invasive species, poaching, the loss of population connectivity, which results in losses of genetic diversity and population viability within the protected areas.³⁰ Intermediate factors stem more expressly from human functions, where ecological, social, and economic systems at multiple scales can cause losses of ecologically important, disturbance regimes; poor governance, and international conflict.³¹ Due to all of these factors, protected areas are fundamentally driven by management and institutional agendas at varying levels and scales – a social-ecological setting at its heart.³²

For conservationists, the *protected area resilience* is the chief concern for determining the extent of these factors' metrics. This resilience is in the sense of a social-ecological system's ability to maintain key elements of its temporal, spatial identity through various perturbations and changes.³³ However, this resilience does not imply that systems will revert back to previous, desired states after the perturbations.³⁴ Instead, it concerns how the systems will persist with changes to the desired states that maintain their respective *protected area identity*.³⁵ The area identity refers to the expected suite of conserved species and habitats alongside ranging provisions that support and regulate cultural ecosystem services.³⁶ Although typically distinct from conservation problems, one complex element within area resilience is pathology, especially disease, due to its interactions within social-ecological systems.³⁷ Pathogens, as a social-ecological problem, create three distinct, ecohealth proposals.³⁸ One, because of the aforementioned problem, it is best approached from an interdisciplinary perspective.³⁹ Two, pathogens have the ability to lead to changes in protected area identity.⁴⁰ Three, pathogens interact with conservation both directly – impacts on wild animals, livestock and people – and indirectly – impacts on the public, conservation management, and veterinary responses.⁴¹

Pathogenic effects on social-ecological systems is based on four criteria of area identity: the system components, their relationships, innovative sources that help the previous persist via adaptation; and continuous sources, such as memory, that contribute to systems' persistence through time (Figure 1.1.).⁴² System components encompass the present settings and actors within protected areas, which is further divided into the criteria of the biotic environment – species composition and abundance – and abiotic environment – soil type, nutrient loading, water availability, and local climate.⁴³ These system components' social aspects involve two factors: human resources and infrastructure.⁴⁴ The former involves park managers, protected area

users, such as tourists and hunters; and peripheral, local communities.⁴⁵ The latter involves the protected area's actual, manmade structures; the protected area's operational, policy arena; and the protected area's generated revenue.⁴⁶

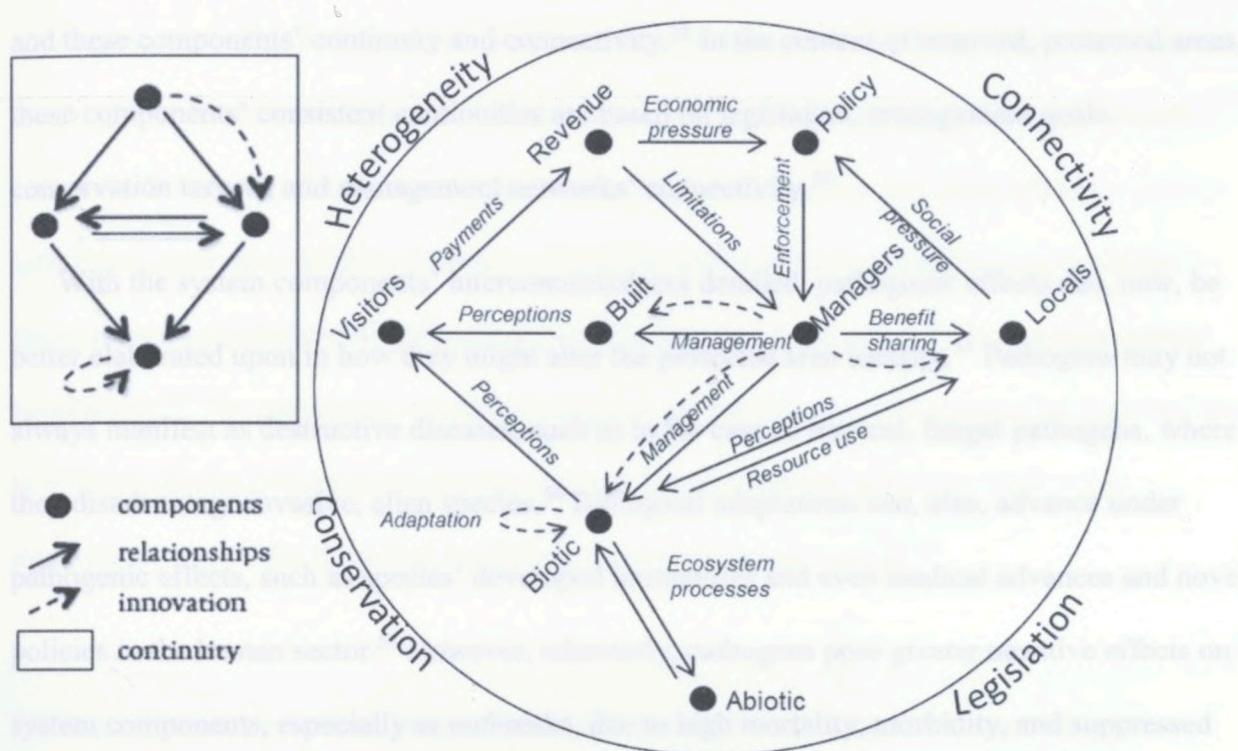


Figure 1.1. Conceptual diagram of a healthy protected area's identity elements/components. Perturbations may affect one or more system elements through the various connections. Figure by Alta De Vos, et al.

Both the natural components and the social components interact with each other, albeit at distinct levels. For example, ecosystem processes, like trophic interactions and interspecies competition, shape both biotic environments and abiotic environments, while park management alters or maintains the aforementioned.⁴⁷ The human aspect can detrimentally affect management strategies due to how a negative, public perception can exert added, societal pressures that alter policy or that inadvertently allow for illegal activities within park boundaries.⁴⁸ Other biotic environmental factors include ecological adaptation, biodiversity, and heterogeneity. Ecological adaption is measured and reflected in past speciation events, current, genetic species; and

functional diversity.⁴⁹ Biodiversity is measured and determined by broader functions, namely ecological adaption at the community level, while factoring in disease-causing organisms.⁵⁰ Heterogeneity is referred to in terms of species distributions, genotypes, ecological functions, and these components' continuity and connectivity.⁵¹ In the context of reserved, protected areas, these components' consistent continuities are based on legislation, management goals, conservation targets, and management networks' connectivity.⁵²

With the system components' interconnectedness detailed, pathogenic effects can, now, be better elaborated upon in how they might alter the protected area identity.⁵³ Pathogens may not always manifest as destructive diseases, such as in the case of tropical, fungal pathogens, where they disadvantage invasive, alien species.⁵⁴ Biological adaptations can, also, advance under pathogenic effects, such as species' developed immunities and even medical advances and novel policies in the human sector.⁵⁵ However, inherently, pathogens pose greater negative effects on system components, especially as outbreaks, due to high mortality, morbidity, and suppressed reproduction. Such effects reduce either endangered species' or keystone species' population densities.⁵⁶ Pathogens' extenuating effects on social-driven components, especially continuity, involve a cascade effect usually originating from either altered public perceptions or local community's infected livestock.⁵⁷ Unsurprisingly, while they may be contained, pathogens are not fixed to solely a protected area, and they may spread into surrounding matrixes.⁵⁸

By using Southern Africa as an illustrative example, its national parks, nature reserves, and animal-driven, commercial industries can show how pathogenic effects function in the field, especially in a highly biodiverse region's social-ecological systems.⁵⁹ For clarification, the addressed data is based on those aforementioned areas south of the Zambezi-Kunene axis, where the entire region is characterized by having its human population grown twenty-fold over

the last century.⁶⁰ The regional, protected areas, namely those in semiarid areas near other areas of extensive domestic animal production, historically has involved the implementation of fences used for separating wild and domestic ungulates due to epidemics of contagious bovine pleuropneumonia.⁶¹ The importance in this separation is because of another historical, regional trend, where the commercial and subsistence use of wildlife legally fluctuated due to disease outbreaks.⁶² Usually animal conservation is the sanctioned practice, but other wildlife enterprises, such as wildlife translocation, pose the ability either to displace or to facilitate diseased animal populations' pathogenic transmissions to protected areas' susceptible animal populations.⁶³ The pathogenic virulence is highest among this type of transmission pathway due to wildlife species being natural disease reservoirs with a gained immunity, while other populations, especially those that are domestic, easily become vectors.⁶⁴

In Southern Africa, social-ecological control methods, such as fences, game elimination, and DDT spraying, have produced major, ecological impacts. These impacts commonly are disrupting large-ranged species' migratory pathways and causing population declines in top predators.⁶⁵ As an example of one of these impacts, the canine distemper virus (CDV), a pathogen prevalent in aerosol droplets and standing water, has caused devastating population decreases on various wildlife species, such as lions, bat-eared foxes, spotted hyenas, and wild dogs.⁶⁶ CDV is commonly spread by domestic dog populations, which makes it a common pathogen within most ecosystem's ecological memories.⁶⁷ Similar to rabies, CDV can disrupt ecological processes through trophic cascades and social processes through charismatic, carnivore species' population losses negating tourism visitations.⁶⁸

Management strategies used to address CDV's impact within the biotic sector have included giving vaccinations to the carnivorous, vector populations.⁶⁹ Not only incredibly, monetarily

costly, these vaccinations, specifically as administered to the Serengeti ecosystem's lion population, have been found to correlate to the possibly extinction of the local cheetah population within 60 years.⁷⁰ From that example, the premise of a pathogen's social-ecological effects is shown to be a complex arrangement of components, processes, and factors. Often majorly, ecologically concerned, these disturbances form integral opportunities for processual recombinations and new, ecological trajectories.⁷¹ However, even ecological systems can only absorb a finite amount of disturbances until their components shift into different states, where these shifted states' cohesion are critically dependent on each system's self-organizing capacity.⁷²

From the previous examples, the central message in any conservation endeavor is that the complexities surrounding typical, pathogenic behaviors happen across multiple, influential spheres. Unfortunately, the Preservers' world was dealing with an atypical, apex pathogen. Southern Africa's biodiversity loss, in terms of either its human population or its non-human animal populations, is a minor parallel in comparison to the umber cell's pathogenic magnitude. The Preservers were conducting biological warfare against a seemingly limitless, natural force. Throughout centuries of conflict, the Preservers, in successive chains, contested their biotechnologies' advancements against this organism's virulence.

Sickening in more than just physical effects, even in smaller population amounts, the umber cell breached past the ecological sphere into the social sphere as the Preservers were attempting to circumvent both complete mass panic and planetary extinction. Long before the implementation of a human hive mind, the Preservers' numbers and allegiances swelled and blended throughout interchanging nationalities and specialized personnel. As world-changers, the global support the Preservers garnered was paramount in maintaining the greater masses'

lives' partial normalcy within a dying world. It was easier for the Preservers to maintain the masses' almost willful ignorance as their introduced biotechnology proved to only acclimate the masses towards partial truths. Those that delved deeper into the subject went on to become either the first transhumans or the latest additions to the Preservers' ranks, while the rest of the world's populations were effectively sedated and, eventually, transformed. These sentiments, also, were perhaps the only credences the later Preservers, as amongst themselves, applied for justifying their heinous actions.

As a prelude to the hive mind, the Preservers were far from being narrow-minded in their perspective of the public masses. Spoken allegations of elite panic were very rare among the Preservers' ranks, while such allegations within the public sphere were regarded as farcical at best. For their ranks' majority, the field research, the experiential sightings, and other anecdotes about the umber cell's virulence provided more than enough passion and justification for the Preservers' countermeasures' developments and borderline ethics. Under the Anthropoles directive, the Preservers' organic network of synthetic immunizers disguised as infrastructural pieces was their main strategy and long-term project. However, with its failings, derivative projects were eventually established to research other survival strategies from more drastic, yet poised, approaches. These newer projects' conceptions were framed around the idea of conservation, especially in terms of natural genotypes' future security and ongoing life's continuity.

The securement of natural genotypes was not a new endeavor within the Preservers' biotechnologically driven, synthetic world. For example, their first infrastructural, synthetic prototypes' ecological impacts were tested within many quarantined, wilderness areas as pared-down variants, where these prototypes' organic internals were the only functions left intact.

Essentially, these more ecologically minded prototypes were synthesized to complement an ecosystem's biodiversity, while minimizing or otherwise zeroing out the detrimental effects they pose on an ecosystem's heterogeneity. Aside from the earliest biofuels, the Preservers' macroscale prototypes, even in their basic compositions, always functioned as immunogens against the natural umber cell, and most of their biotechnologies' anthropocentric functions were secondary. By fitting into an ecosystem's biodiversity, these prototypes were purposefully established in optimal testing conditions near umber cell infected sites. These infected sites were often artificially induced in order to ensure certain elements remained constant while other metrics were greatly subdued, such as the pathogen's concentration. These earlier field tests greatly aided in understanding the umber cell's earlier transmission methodology as it preferred targeting endemic organisms as compared to their synthetic organisms.

These earlier findings would sponsor the implementation of more aggressive immunity protocols, where the Preservers' biotechnologies would forcibly interface with the natural umber cell. Even in later product lines, their prototypes acted as siphons and cleansers near actual, infected sites. Overall, the Anthropoles directive's greater, infrastructural network would become the culmination of these countermeasures by providing a frontline barrier against the pathogen. Although a valiant effort, the network's failings in its constant warring against umber cell populations was a momentously enervating moment for the Preservers, but it came with a silver lining of sorts. The umber cell's transmutability had been greatly honed through its manmade attackers, especially in terms of its immuno-evasive and immunosuppressive capabilities. For this organism, laws of natural selection leaned towards its ability to relentlessly propagate as multiples. Starting from the oceanic boundaries, where its population was at its most intense, the umber cell managed to finally hijack one of the Preservers' network components. As more of a

shock to the Preservers, the umber cell began to immediately propagate under its synthetic host and to spread through the neighboring components at an alarming rate. Within the hundreds of thousands of umber cell variations the Preservers had countered, none of them involved a successive hijacking outside of the pathogen's second stage.

In whatever data they could gather, the Preservers concluded that the natural umber cell had "fused" with the network's artificial umber cell. This fusion was a horrific symbiosis between two unyielding processes – an adaptive immune response and a pathogenic virulence. Far from going inert, the network's transmutable, immune systems was synthesizing the necessary components for rapid phagocytosis of the pathogen. The network's ceaseless response was equally, rapidly reciprocated by the natural umber cell's reverse transcription. The outer appearance of this micro-war was easily assessed just solely with the naked eye as the network structures' biomasses arrhythmically cycled between volumetric convulsing and necrotic sloughing. As enhanced viral strains were being produced en masse by the infected network's immune systems, this new umber cell's spreading throughout the Preservers' network had far reaching implication for the effects it would pose on the rest of the synthetic world's endemic life. Both the human hive mind and the world's populations were in jeopardy.

As the umber cell was transmitted through the infected network, routed civilizations were quickly subsumed to similar effects comparable to the network's undying mutations. The world's transhuman populations were forcibly mutated into undying wretches that acted as mobile reservoirs for the pathogen. Physiologically, most infected subjects became semi-solid, tumorous figments of their previous selves as their entire biological structure volumetrically warped. The full range of physiologic mutations greatly varied per subject, but the most "stabilized" lot took on top-heavy, melting forms enclosed by a biomass shell made of their own fused tissues. These

subjects' most severe detriment was their abrupt disconnection from the hive-mind environment. Whereas they were previously, physically controlled and mentally sedated into semi-conscious states, the infected populous were fully, yet terribly, awakened back into their independent, psychological functions. A perpetual, painful racking of recombining, organic tissue and hellish, autoimmune responses quickly consumed their rediscovered senses. This awakened, torturous existence would lead to a sharp decline in a subject's coherence. From maddened, pitiful pleas to inaudible grunts, the infected subjects were driven into a ravenous frenzy as they instinctively, indiscriminately attacked one another. This mayhem's endpoint resulted in undulating fields of writhing, necrotic biomass, where the luckiest subjects were those who fell first.

simply known as Project Terminus. From it, two projects were created: the *Archaeo-Initiative* and *The Architect's Blueprint*.

The former was an extensive, site-feld project that involved securing and archiving the world's natural genotypes into gene banks contained within manmade habitats known as *Grove*. These habitats were mostly multi-level research bases and bunkers were the remaining Preservers inhabited and toiled in for the rest of their lives. In their lifetime, the Preservers had already collected the majority of these genotypes through various secondary ventures involving either adapting endemic populations to the Preservers' specific environment or creating living vivariums for endemic populations to inhabit. The Grove Groves' biomechanical structures were erected within protected, natural areas - from older growing or newer bases - where the biological conditions within these structures contained a high degree of architectural modularity. The artificial habitats could accommodate many key research necessities with little mechanical error due to its biomechanics' programmability and recycling membrane systems. As spearheaded by The Architect, the Preservers meticulously engineered the latest prototypes

CHAPTER TWO**2.1 CONSERVATION OR PRESERVATION?**

Just like that, the Preservers' attempts at creating a utopia free of their pathogenic nightmare were undone. With little reverence given for those lost, the infected subjects were named the *mulviri* (*mulvir* for singular), a Latin portmanteau roughly meaning "touched/soothed men." The *mulviri*'s spreading resulted in the dismantling of the Preservers' network – an effective severing of both their information intelligence and their quite literal eyes – and, with it, they were given full assurance to advance with their contingent projects. Although their network had been lost, the Anthropoles directive would survive and, even, outlive its progenitors through a framework simply known as *Project Terminus*. From it, two projects were enacted: the *Anthrosylvan Initiative* and *The Artificer's Initiative*.

The former was an ambitious, threefold project that involved securing and archiving the world's natural genotypes into gene banks contained within manmade habitats known as *Gaian Groves*. These habitats were mobile, multi-terrain research bases and bunkers were the remaining Preservers inhabited and toiled in for the rest of their time. In their foresight, the Preservers had already collected the majority of these genotypes through various secondary ventures involving either adapting endemic populations to the Preservers' synthetic environment or creating living vivariums for endemic populations to inhabit. The *Gaian Groves*' biotechnological structures were enacted within protected, natural areas – from either preexisting or newer bases – where the biological conditions within these structures contained a high degree of architectural modularity. The artificial habitats could accommodate many key research necessities with little mechanical error due to its biotechnologies' transmutability and recycling, metabolic systems. As spearheaded by The Artificer, the Preservers meticulously engineered the latest prototypes

necessary for the completion of The Artificer's Initiative, which mainly involved preserving chosen materials through suspended animation.

The Artificer's Initiative was the Preservers' magnum opus for ensuring their culture's survival as centralized around The Artificer. The core schematic for this last project was the full development of a weaponized, synthetic prototype based off the mulviri's fixed, symbiotic umber cell strain. Although such findings were presently in vain, the Preservers discovered the pathogen had begun to weaken in its adaptive mutations, but, due to its attained complexity, the surviving Preservers could not hope to immunize themselves against it. Whereas the current immunogens necessary for protecting oneself were too genetically destructive for endemic life, synthetic life with the proper, genetic capacity could be engineered to finally eradicate the threat. Their mode of attack would be conducted through these weaponized agents, and their lens of cause was a global reset through sterilization of all "infected biomatter."

The agents, known as *Artisans*, a surviving moniker even in the Post-Cataclysm timeline, are semi-solid, automated humanoids capable of fabricating a specialized microbe. In all their aspects, both Artisans and their internal microbes are repurposed variants of the symbiotic umber cell, hence their mulviri-basis. Essentially, Artisans are mobile, adaptive immunogens, while their microbes are the actual antibodies. This pairing resulted in an effective, parasitic hunter that preys upon the umber cell through a programmed process that, eventually, results in the Artisan's martyrdom. Before their genetic kill switches are activated, Artisans are designed to seek out umber cell populations, where they neutralize the cells' pathogenic aspect and assimilate the cells' remaining biomass. Then, in virtually substituting a site's biotic population, Artisans encyst themselves into a dormant state that is very comparable to the umber cell's slime mold variant, albeit these encysted Artisans are sterilized copies of the original.

This process is facilitated by their microbes' own synthesized chemical compound, known as the *Degeneration Agent* (or *Degen. Agent*). The *Degen. Agent* is about as anomalous in its chemical properties as the umber cell's mutagenic capabilities. The Artisans' microbes secrete this substance with enough potency to counteract the symbiotic umber cell's transmutability, as dependent on the pathogen's defensive modes. As the substance's name may imply, the *Degen. Agent* inhibits the umber cell's base ability of sustaining its host's vitals until optimal propagation. Without the ability to consistently strengthen its host after infection, the umber cell inadvertently strains its host's genetic structure past its typical Hayflick limit. Combined with the Artisans' subsequent assimilations of the leftover materials, the umber cell's heterogeneity is crippled as its population is dwindled and sterilized within a series of incompatible hosts.

Still dependent on the Hayflick limit, the Artisans' kill switches are triggered by a variety of factors proportionate to the genetic-stress induced on their own biological integrity. Unlike the umber cell, where a host's death ensues from neoplastic causes, Artisans' demises are caused by a combination of overheating and their own *Degen. Agent*. In performing their predatory protocols, Artisans undergo an unstable, metabolic process, where their antibody production requires the constant conversion of biomass into their microbes' nutrients.

Namely, the microenvironments that the microbes reside within are highly layered, protective bursas lining an Artisan's internals – similar in placement to the human lymphatic system – which grow in proportion to the *Degen. Agent*'s volumetric, synthesized amount. Artisans' conversion of the necessary biomass needed to sustain themselves results in a superheated, biological "annealing" that leaves them internally vulnerable to their own antibodies. The antibodies are created to react indiscriminately to anything that is considered pathogenic, and, unfortunately, the Artisan's body is both a living marker and a derivative of the umber cell. Upon

receiving enough heat, the microbial bursas will internally rupture and their secretions will quickly breakdown the Artisan's genetic structure. While exceptionally malleable in that respect, Artisans will only have enough strength to sustain homeostasis through taking own a simpler form of cystic masses.

As surviving remnants of the old world, Artisans were adapted from mankind's remnants into two distinct schematics. The suicidal, cystic Artisans were essentially disposable prototypes that were designed to swiftly exploit the symbiotic umber cell's static form. Within the future timeline, as these cystic remnants were found to have survived, these earlier Artisans became those aforementioned constructs inhabiting the Satellite Isles, known as *aberrations*. Aberrations became an irregular mutation in the cystic organisms following the cataclysm as they seemingly resumed their terrible task of aiding the Preservers' sterilization of the umber cell. These mutants slowly assimilate newer biomass in order to enact a self-designated, subordinate function, where they are attempting to awaken their Masters through reconstructing an imitation of the Anthropoles network.

The second schematic, known as *True Artisans*, is a later design solely devised by The Artificer, itself. Their design was engineered for a grander purpose, where they would act as the Preservers' surveyors within the future world. With a global reset still on the docket, True Artisans were expected to finalize the Preserver's machinations as they were granted the natural ability to manipulate and to reconstitute umber cell-infused biomatter, in an ability denoted as *shadecrafting*, alongside a modified Degen. Agent. The extent of and actions involved in their shadecrafting varies between True Artisans due to their widely untested nature and the future's variability, especially in terms of evolutionary paths and ecological trajectories. In order to accommodate for this variability, these Artisan's Degen. Agent was modified to allow them a

greater degree of flexibility in the compound's potency and delivery method. The original set was devised to be almost entirely autonomous within the prototypical Artisans. They produced a highly volatile compound that was injected into prey through either direct assimilation of the target or injecting the compound into the target via a series of prehensile, barbed tendrils. Whereas the antibody's perpetual production commonly led to the prototypical Artisan's self-destruction, True Artisans' antibody production is almost entirely voluntary in how each individual chooses to weaponize it, such as the compound's severity and their microbial bursas' internal placements. Subsequently, they could choose to incapacitate or to disable a target, instead of outright killing it, for operations involving more tact.

A For these emerging creations, this powerful arrangement often leaves True Artisans in a state of disarray. In the scope of the Post-Cataclysm timeline, True Artisans are, essentially, rushed out of "utero" into an unforgiving, shifting worldscape. Although they have the physical capacity to reshape and to conquer its flux, True Artisans are neither a collective amongst themselves nor directly led by a tangible force. Those few that survive despite the future world's hostilities make their revelations and associations in how to better ascertain a greater vantage point or control over their engineered purposes. More than often, True Artisans inadvertently fulfill their engineered, destructive existences through seizing control of and aggregating the world's resources. Thanks to the Degen. Agent and other adaptations, they, eventually, reach positions of power through faction-based campaigns, where they pit themselves against one another and a myriad of other resistances – from kinsfolks to other anachronistic creations.

In terms of their mentalities, these Artisans are a closer approximation to humanity than the Preservers, themselves, were during their closing decades due to the former's greater autonomy. More than just a sentiment, the True Artisans' biomasses are comprised of The Artificer's most

valued subordinates. Through inevitably metabolizing it in order to ensure greater survivability, True Artisans expend these aged husks in favor of indigenous biomass. Like kinsfolks, inherited memories may be possible for True Artisans, but being both atypical foreigners and lone travelers does not culture their more troubling thoughts, such as their alien origins. For their Preserver counterparts, the aforementioned subordinates were sycophants who heeded their amalgamated master's "guidance" with reverence and without pause.

With desperation and devotion hand-in-hand, their transformation into these synthetic beings happened through a recombinant process involving inoculating themselves with a direct injection of the mulviri's umber cell strain and undergoing a deep, genetic reconditioning through stasis. Although this reconditioning prevents self-harm through suspending all relevant, mental functions, the transformative process was never intended to be completely flawless as most subjects either became trapped in an unconscious, cystic state or died halfway through it due to the strain. Ultimately, under The Anthrosylvan Initiative, both The Artificer and its surviving, synthetic subordinates entered into stases within their Gaian Groves. Later on, from these weathered bunkers, the True Artisans would make their emergence as another surviving threat sought to intervene against the Preservers' schemes: the *Conservers*.

Whether its followers were selfless intellectuals or fawning sycophants, The Artificer, during and after the old world's closing, grew to become a jaded, yet directed, mastermind among the Preservers. Since the Anthropoles network's termination, those Preservers that were blessed enough to be in their mastermind's dwindling presence felt reassurance in their workings – a unifying validation despite the critical setbacks. In the last correspondences they received, mostly indirectly, from The Artificer, the outlying bases were tasked with securing samples from live mulviri specimens under the hypothesis that the umber cell had become apparently

weakened. Murmuring that the specimen samples could be used for the development of a new, weaponized prototype helped to coax a fair amount of the outlying crews into taking action.

Through a combination of wide self-sacrifice and successive translocation of the procured samples spanning over years, all standing Preserver bases were delivered syringes filled with a curious, copper-colored, and viscous liquid labeled "Artiumbximab." In a rare occurrence for the late Preservers, skeptics arose around The Artificer's novel drug and cryptic meaning. Less one be deemed mutinous or let alone faithless to his or her culture's cause, no Preserver wished to doubt The Artificer's mode, so the bravest, or doubtless, individuals among the bases quarantined and inoculated themselves with the syringes. Their reasons ranged: to dispel their own disbeliefs, fall at their master's command, spare their fellows an undo fate, or to accomplish a combination of the previous. Through close, yet cautious, monitoring, the onlookers watched with mixed emotions as they discovered what Artiumbximab was: a new mutagen.

Some may have hoped for an actual vaccine, but it became eventually accepted that it was an improbability given the current umber cell's virulence. The induced mutations were the first introductions of the Artisan schematic for the majority of the Preservers. Their associate's transformations were verbally quiet and virtually still, as if they suffered from sleep paralysis – a peaceful display when compared to the maddening process of converting into a mulvir. Less than twenty four hours after exposure, the first Artisans were fully formed and stationary within their self-designated cells, seemingly awaiting for the rest to make the transition. From the Artisans' blazing, amber eyes, the fawning Preservers, without any such consideration for "quarantining" themselves, inoculated themselves en masse. In a reversal, just as The Artificer was formed from men's frames as a mere, yet profound, prototype; now, the Preservers, themselves, formed their master's prototypes as an all-consuming legion.

2.2 A BIO-ARMS RACE AND ANIMACYTES

Those dejected souls that gave into their own subjective reasoning, where, indeed, spared no pale fate of becoming mere puppets in a master's theatre. However, this minority's compliance, as their lives were ultimately needed for the devilish's plan. Spanning the physical distances between the Orian Groves, the lingual trees stood that once existed through synthetic informants was finally snapped. The disposable prototypes' predatory protocols were unceremoniously activated as they ripped into and dismantled the artificial bastions in supernatural displays of savored ferocity and instinctual purpose. The annihilated Preservers were collateral as great numbers of them were culled in the Artisans' hunger pangs. Other hosts, especially those underground, quickly faltered due to their initial, indiscriminate findings. However, for bases that were elevated, they came careening down back into the infected earth, where the Artisans reflected their attack upon all directions. Those effectively hopped, yet surviving, Preservers second caught in a contagious crossfire, where the malady infection's onset was immediate. While some succumbed to a fate they dreaded for decades, others, in extreme desperation and mind-numbing pains, managed to inject themselves with the Artiumbaimab syringe.

Originally delivered in bulk, the syringes wide availability made this heeded choice a fairly common occurrence during the Artians' knock down. However, what was not widely known was the after-effects of mixing the two powerful monomers. Many of those suffering from this hybridized exposure merely slowed down the cognitive growth and frequency of autoimmune responses. This full, hybridized transformation cycle typically would have led to a still pathogenic racking within the host subjects as they were both physically and mentally paralyzed through their anatomical layers' melting out, like a blushing sun. Many sufferers of this

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Originally delivered in bulk, the syringes wide availability made this heated choice a fairly common occurrence during the Artisans' touch down. However, what was not widely known was the aftereffects of mixing the two powerful mutagens. Many of those suffering from this hybridized exposure merely slowed down the neoplastic growths and frequency of autoimmune responses. This full, bastardized transformation cycle typically would have led to a still pathogenic racking within the host subject as they were both physically and mentally paralyzed through their anatomical layers' radiating out, like a blazing star. Many sufferers of this

hybridized toxin lost consciousness as the sheer pain expected from infectious exposure was extended to something that felt everlasting.

As the Artisans preyed on the mulviri, many of the hybridized Preservers were left untouched due to their Artisan mutagen flowing throughout their ballooned vasculature. However, these Preservers were not plainly dormant beings due to the mutagen's potency as they slowly shifted into distorted figments of the Artisans. Amid piles of necrotic tissue, they increasingly flickered between conscious states as their biomasses were reconvened into lithe, resin-coated, and humanoid shapes. In a half-dazed state, these irregular humanoids simultaneously regained their consciousness and basic motor functions. Each one could feel its surroundings and its extremities, especially as a majority had to dig themselves out of the cystic mounds, but everything seemed to appear incredibly dark alongside a weirdly claustrophobic feeling.

A plaintive fear took hold of these Preservers as they thought they must still be trapped. Trying to make that last push through whatever miserable barrier was caging them proved difficult. From mild frustration to pure indignation, a bestial force surged through these Preservers in a flurry of punctures to the offending surfaces. The minor pain was secondary to their desire for freedom. After they finally broke through their prisons, they attempted to speak to their nearest neighbor, but only a disturbing growling was emanated. Many looked to find the noises' monstrous sources in testing their newfound eyesight, albeit their perspectives were vertigo inducing. One by one, as others still physically struggled, their newfound senses fully recalibrated.

The first thing to catch their eyes about their neighbors was the maroon-stained, off-white glinting of paired teeth. In an immediate, disgusted rage, these Preservers would lash at their nearest neighbor as they were being parasitized by unknown helminths. As immediate as they

were to become enraged, contacting subjects were interrupted by human cries exclaiming known identities, complex emotions, and plain humanity. These exchanges were almost instantaneous as what can only be described as a feeling of ataraxia enveloped these Preservers. As more and more human vocalizations reverberated from somehow miles apart, these parasitized Preservers became elation itself: the hive-mind network had returned.

As helminth-filled mockeries of The Artificer's design, these Preservers became a "naturalized" offshoot of the Artisans known as the Conservers. Likened in almost every physical aspect to Artisans, the Conservers were autonomous of The Artificer's influence. However, they were not independent of the learned skills, especially in how to function as an interconnected collective, they acquired when under their former master's tutelage. Their hive mind was nearly unmatched in terms of efficiency when compared to the Preserver's last methods, where it depended on the use of an infrastructural network. Within this new hive-mind collective, each Conserver was merely a collective of endoparasitic helminths, known as *heimrwurms* (shorthanded to plainly *wurms*), a Norse-German portmanteau meaning "world worms." These worms were extensible organisms that survived through a mutualistic grouping either within a singular, organic structure or as temporary swarms. In the former, as near precursors for the Post-Cataclysm timeline's endemic life, this puppet-like structure was an interchangeable, transmutable framework that the worms could use to disassemble or reassemble biomass as needed. In the latter, either the host structure's partial disassembly or its complete disassembly typically resulted in the worms recombining into larger, exoparasitic annelids or other macrorganisms from their original, specialized, and almost microcellular forms.

Cobbled with their transmutable, extensible forms, the overall Conserver collective primarily communicated via a shared consciousness through exchanging worms between host structures,

which was similar to how The Artificer's intelligence is formed. However, upon acclimating to their host structures, they became capable of crude, verbal speech. As a skilled imitation of The Artificer, the Conservers are exceptionally streamlined within their tasks. They had retained a fragmented memory pool of their previous lives, especially information about Project Terminus' reset directive and the Artisans. Because of their muddled genomes, the Conservers are frighteningly fertile beings, where they are, essentially, the pathogenic umber cell's spiritual surrogates. Through their near constant state of ataraxia, they exhibited an innate, inspirited drive to reproduce, but, through their backgrounds as Preservers, they utilize their knowledge of recombinant processes to accelerate and guide these carnalities. This dualistic relationship between instinct and cognition began the final catalyst that led to the Cataclysm, itself. Gradually, the Conservers parasitized the cystic terrain by using these biomass deposits as brood sacs, where hundreds of thousands of worms would gestate and erupt from them. The cysts' concentrated, nutrient-rich composition meant that the progeny had an exceptionally short growth cycle.

Rather than just creating basic replicas of their humanoid structure, the Conservers engineered novel organisms that bore the same reproductive capability and transmutability intrinsic in umber cell-infused subjects. Thus, the first nightstalkers and dredgers were formed from the decaying land as the worms' mobile surrogates. The Conserver's first prototypes were barely controlled within their hive mind, and they more readily acted like actual fauna. For example, the earliest dredgers were smaller, swarming organisms that were formed from abiotic materials from an underdeveloped geode. The ancestral dredgers acted as worm vectors by functioning like a fomite, and the ancestral nightstalkers were cystic, resin-coated quadrupeds. As the two phyla widened the worms' breeding grounds, the Conservers were eventually

confronted with a genocidal Artisan population, as emphasized with The Artificer's disdainful discovery of these abominations.

While mostly inexplicit in their activities, The Artificer began to understand their warped, yet intriguing, cause. The Conservers, in a foolish marrying between their parasitic, animalistic nature and their pseudo-sentient, cognitive memory, believed that they could mend and return the known world into a stabilized state. Their evolutionary philosophy centered on the concept of *atelia*, a medical descriptor for an organism's incomplete or imperfect development, as they viewed the Artisan's predation as an affront to the evolution brought by the umber cell. Through flooding the world with their idea of biodiversity, the Conservers hoped to remedy the world's atelia through using their wurms as a regenerative "worldskin." To The Artificer, the only real affront was their audacity in needlessly continuing mankind's pathogenic nightmare. Leading up to the activation of The Anthrosylvan Initiative's stases protocol, The Artificer worked with its closest, valued minds to create formidable countermeasures based off the Artisans. Their workings substantiated the official production of the True Artisans. As administered through a combination of mixed injections and intensive, gene therapy, the True Artisans employed against the transhuman Conservers were intermediate products involved in the personal dismantling of the Conservers' convergence upon the Gaian Grove ruins.

Within these ruins, the Conservers sought out the Gaian Groves' vast gene banks, which housed a wealth of fabrication materials. The Conservers sought these resources in their aims for seemingly restarting the world's biodiversity. Through using the wurms as catalysts, they raised all matters of facsimiles reminiscent of endemic life spanning across centuries. However, where The Artificer regarded them as abominable, the Conservers' copies were critically flawed as they exhibited irregularities in their overall niches. For instance, trophic chains were either

nonexistent as major populations took on alien, nutritional needs or nonsensical as other populations turned on one another in cannibalistic displays. The Conservers thought that ancient taxonomies and ecological systems would reform from the umber cell's unstable basis, which meant that the already fractured world's systems would inevitably reorganize themselves as expanses of uninhabitable wastelands. The Conservers' were euphorically drunken on their creator's conquest to reestablish the shaken world with only a limited number of principles effectively guiding it. The Artificer took it upon itself to intervene in the Conservers' campaigns before they corrupted the Gaian Groves' repositories.

Pure, distilled samples of species long since expunged from the Preservers' synthetic world were at dire risk. By remaining uncontaminated by the umber cell's influx, the Preservers' aimed to reintroduce endemic life following the True Artisans' termination of the pathogenic umber cell. The Conservers' markedly unrestrained wills to act as would-be creators mirrored this ultimate aim, but the Conservers' time and means to conduct it were highly inappropriate. In ways, the comparable aims between the two humanoid factions helped to rebalance the world's regrowth, but any "collaboration" between them was mostly fueled by hostility as their differences ran deeper.

While both sides demonstrated an impressive degree of patience, the Conservers had a hasten drive for this regrowth, and, despite their zeal, they desired to utilize the Gaian Groves' samples to finesse their creations. However, The Artificer and its Artisans would pressure the Conservers' searching almost exclusively towards the centermost regions. Amid cysts blanketing the landscape, these regions quickly became hot zones due to the presence of ready-made biomass produced by the first-wave Artisans alongside an abundance of Gaian Groves. The Conservers would buy themselves time by bolstering their defenses through using these regional

features as the Preservers' pressure culled their numbers. While they initially lacked the umber cell's survivability by a large margin, the Conservers' zealous tenacity and responsive reorganizing among their ranks and tactics only grew greater as they, eventually, entered into the ruins. Still, they were, very much, under siege, which had greatly deviated the Conservers' biodiversity focus.

In possibly only a month's time, the Conservers devised and enacted their own countermeasures as the Preservers broke through their ranks of facsimiles and select agents. Foremost, they experimented with the extent of their assembling ability in creating both imposing, biological forms and more diminutive, cloaked forms. In essence, they prepared themselves for their own type of suspended animation, where they focused on how to exploit the Preservers' prime weakness. Namely, the Preservers' cause was finite as they were "infertile" and slowly losing with each Artisan that fell in their warring against the Conservers. Before they could sow the seeds for future subterfuge, the Conservers, also, began to utilize the gene banks alongside their vestigial Artisan properties. Gradually, through sacrificing many of their own personal agents in the process, the Conservers developed a biological defense against the Artisan's Degen. Agent in the form of a secreted, immuno-evasive, and immunosuppressive biofilm. The Conservers attained the ability to directly confront the Preservers and reverse the battle's tide as the worms could, now, forcibly rupture the Artisans' bursas.

Predictably, the warring between the two factions went on for a longer while due to the Conservers' newfound offense. With their bought time, the Conservers doubled their efforts on refocusing towards their biodiversity goals. In contrast to their previous overzealous selves, the Conservers were incredibly sobered due to the Preservers' pressuring, which, in turn, made the Conservers' actions more deliberate. All their refocusing resulted in the transfer of their memory

network into reconstituted faunal life. With the samples' "contamination," this fauna, dubbed *animacytes* (Latin portmanteau meaning "life vessels"), was ultimately spared from the Preservers' full effects. However, tit for tat, The Artificer's personal surveillance and study of the worms led to the production of a new mutagen from a modified Artisan microbe. Whereas the worms exploited the Artisans' fatal, autoimmune response, this new mutagen enabled inoculated Artisans to emit, once ruptured, a phase-changing, powerful anesthetic that sedated the helminths. Eventually titled as *phasefog* by the Fringeweavers, this anesthetic's lethality lied in its reversal of the encysted Artisan's sterility. Upon encystment, the microbes emanating the anesthetic would disperse from its host and propagate within neighboring biomatter, therefore widening the phasefog's proximity. By being effectively severed from its brethren and entrapped in a sedating prison, the Conservers' offensive advances were halted.

All but a few select Conservers stood behind within the Gaian Groves to defend and to progress as much as possible with the animacytes' completions. With much of the region secured, The Artificer, itself, led a frontal assault on these last brazen Conservers, and, to further dwarf their efforts, the phasefog alongside an elite guard of True Artisans followed in tow. This procession proved the extent that the Preservers, especially The Artificer, were in maintaining their directive. The aforementioned elite guard became the final line of True Artisans to be deployed until the Anthrosylvan Initiative's future completion, and the Conservers' destruction was their proof of concept. From outside each of the Gaian Groves, in repeat occurrences, those Conservers that either were ordered to escape or managed to cheat death felt both a tremendous loss as the animacytes' defenders perished and dutiful sense to fulfill their wishes. Initially, unbeknownst to The Artificer during its conquest, these fleeing Conservers secreted away with a

majority of the animacytes as nestled in their persons. However, despite splitting off towards different regions, the Preservers' pursuit of them was inevitable.

Of course, the Conservers had anticipated this grim outcome following the True Artisans' gory displays and incessant predation. Despite the inevitability, for every one Artisan there were ten Conservers, so the Preservers could not to eliminate them all at once. For another few years, The Artificer conducted its manhunts and culled their populations, and the remaining Conservers enacted their final task upon reaching key, regional destinations. Within the supposed, ancestral places of the past world's biomes, the Conservers both disassembled into the land and assembled to create massive forms. The former, as the more diminutive, yet expansive, aspect, became, what the Fringeweavers called, the worldskin – a veritable embodiment and actualization of their belief. The latter, as the imposing, biological aspect, became the future world's colossi – beings hailed as being on par with deities due to the natural disasters they wrought. Together, the Conservers managed play their hand in determining the future's world's fate by rooting themselves as an eternal enemy of the Preservers and safeguards for the future's inhabitants.

On the other end, the Preservers' ruthlessness ultimately resulted in the destruction of many animacytes, and, consequently, the erasure of many traces of past, endemic life. As the Preservers caught up to the geographical extremes the Conservers trekked to, they encountered the Conserver demi-beings, at various stages of development. In these encounters, The Artificer, as aided by its True Artisans, drove them into deeper, longer distances in wounded or scarred states. In possibly the closest approximation to reverence given to these past Preservers, the slain demi-beings' remains were left well-enough intact to study. The Artificer's study of its dead competitors stemmed from an acute desire to reexamine why they were so desperate to survive.

In its mind, The Artificer was incessantly curious about its competitors' reason for maintaining their fruitless creator's quest. Within their remains, The Artificer found its answer: the animacytes. They had been gestating within the Conservers' persons for years taking on refined, naturalistic shapes that were free from the, now, commonplace, cystic features and other deformities found throughout the landscapes. However, The Artificer's appraisal of the animacytes ended bittersweet as the embryos had an unnatural darkening – a telltale sign that they were pathogenic creations. With little doubt given for the implications that the umber cell's future continuity was now assured, The Artificer imparted a thought within each located animacyte: "You are a bastard born from both man and beast. If you desire peace, forsake your blighted, animalistic mind, and seek out your true masters."

The Artificer's blunt, cryptic message would reverberate through the animacytes' descendants, the kinsfolks, for generations to come. The future world's stabilization was a slow, arduous process that left little room for weaknesses. Perhaps the most formative factor for the kinsfolks' ancestors, or lack of therefore, was natural selection. Between the few, yet resolute, surviving organisms from the Prequel timeline and the awakening of an anachronistic past, many kinsfolk species fell prey to the greater forces that be, which gave way to the final extinction for many lineages. For those animacytes that were successfully spirited away by the Conservers, in whatever outcome, they had a much more forgiving acclimation into the reforming world.

Many Conserver worlds became the timeworn habitats and hinterlands for many prosperous kinsfolk populations. Alternatively, many other kinsfolks greatly resented the Conservers' biological byproducts, namely the nightstalkers and the dredgers, and the byproducts' birthers, the colossi, themselves. Understandingly, these kinsfolk populations harbored no great fascination with their origin as they merely, yet ironically, gestated within the

Conserver colossi, and they were left to fend for themselves among its other progeny. Through whatever ancestral background, kinsfolks were increasingly badgered by The Artificer's words, which led to the Awakening cycle's manifestation. Before they would meet their unmaker, its harbingers, the True Artisans, would become the beacons of much change and continuity in future times.

dystopic tone. The concept of an enlightened world thrives on the significance caused on characters, objects, and a plethora of other things by viewers. Whether real or fictional, these viewers inevitably come to limits on how expanded the subjects' informational details can become. In addressing these details through the series' script, storytelling has become a core component for articulating the eclectic tones being employed. Since youth, concurrent exposure to many different, narrative genres and themes has raised the series' barometer for how its overall, narrative structure should project past being just an imitation of its inspirations. In finding an original voice for the series by drawing influence on the core subject matter, the series has attained a complexity, which acts as a double-edged sword for determining where its merits currently lie. However, a level of stability is attained through the choice of containing the series within a mostly fictional framework. Additionally, the series' various inspirations, namely those that relate to similar narrative modes or subjects, provide parallels, rather than direct imitations. While said inspirations affect more specific, narrative elements, these parallels continue to help build a broader perspective on the series' growth and circumstantial merits.

One such parallel is the late nineteenth-century, supernatural fiction writer Howard Phillips Lovecraft (or more popularly H.P. Lovecraft). As a devout writer, Lovecraft's fiction writing was his life-work, but not his vocation, in respect to his later troubled life.¹⁰ Since his own youth, the inspiring media that he was exposed to, such as *The Arabian Nights* and the New England Farmers' Almanac, created an imaginative lifestyle for him, where his outlook was "dreadfully

CHAPTER THREE

3.1 THE INVOLUNTARY MEMORY AND MODERNITY'S AURA

As evident within the last two sections, the exposition within *Nature's Prototypes* hinges on an interplay between realism and fiction in order to create a historied atmosphere and dystopic tone. The concept of an enlivened world thrives on the significance casted on characters, objects, and a plethora of other things by viewers. Whether real or fictional, these viewers inevitably come to limits on how expounded the subjects' associational details can become. In addressing these details through the series' content, storytelling has become a core component for articulating the eclectic topics being grappled at. Since youth, concurrent exposure to many different, narrative genres and themes has raised the series' barometer for how its overall, narrative structure should project past being just an imitation of its inspirations. In finding an original voice for the series by choosing biology as the core subject matter, the series has attained a complexity, which acts as a double-edged marker for determining where its merits currently lay. However, a level of stability is attained through the choice of containing the series within a mostly fictional framework. Additionally, the series' ranging inspirations, namely those that relate to similar narrative modes or subjects, provide parallels, rather than direct inspirations. While said inspirations affect more specific, narrative elements, these parallels continue to help build a broader perspective on the series' growth and aforementioned merits.

One such parallel is the late nineteenth-century, supernatural fiction writer Howard Phillips Lovecraft (or more popularly H.P. Lovecraft). As a devout writer, Lovecraft's fiction writing was his life-work, but not his vocation, in respect to his later troubled life.⁷³ Since his own youth, the inspiring media that he was exposed to, such as *The Arabian Nights* and the New England *Farmers' Almanac*, created an imaginative lifestyle for him, where his outlook was "doubly

storied.”⁷⁴ One part was fantastical, while the other part engaged with New England colonies’ real, objective history.⁷⁵ As found in the majority of his supernatural fiction, Lovecraft’s use of realism was purely aesthetic as he strove for greater lengths to build layers of realistic detail and cosmic suggestion into his stories.⁷⁶ Many of these built-up layers were readapted from other contemporary writers. For example, the Anglo-Irish writer and dramatist Edward Plunkett, or Lord Dunsany, was one such writer, but Lovecraft subverted a majority of Dunsany’s fictions that were structured around romance and realism.⁷⁷ Instead, Lovecraft located his work in a field he dubbed imaginative fiction or weird tales, where he argued that all moods were his to reproduce and the only limitation was his talent as a writer.⁷⁸ In one of his essays from 1927, Lovecraft cautioned his readers to not expect weird tales to conform to any one theoretical model as it is, rather, a heterogeneous, composite body made up of many intangible, fearful emotions.⁷⁹ From Lovecraft’s general ruling, imaginative writers only needed to be genuine in the mood he or she created, therefore his or her story would become authentic through its established atmosphere.⁸⁰

The term *atmosphere* or *aura* is an uncommon, yet traceable, concept used by Lovecraft in his personal missives, but he rescinded the concept’s occultist connotations as he despised both occultism and spiritualism.⁸¹ Essentially, aura is the medium that conveys mood to the reader, where it provided a qualitative experience that contemporary society had suppressed.⁸² However, he argued that sensitive readers may detect and evaluate a story’s atmosphere through its slow, stylistic accumulation of details.⁸³ For him, this response proved that aura is the only medium for conveying elusive, intangible elements, such as when recreating the human mind.⁸⁴ In another sense, aura is companioned by two other concepts: the *trace* and the *gaze*.⁸⁵ The trace is something that one can think he or she can take possession of because of its physical nearness,

while the gaze is an aesthetic object or something else that one has positioned and elevated into a higher status.⁸⁶ With aura, an experience relative to temporal, spatial distance, being the center-point, both the trace and the gaze can be thought of as two poles of supernatural experience: one of distance (i.e., trace) and one of fearful proximity (i.e., gaze).⁸⁷

In comparison to Dunsany's fictions of exotic settings, where he sharply criticized modern, civil societies for destroying tradition through pursuing rational self-interest, Lovecraft's usual gaze similarly came from a connection to the past.⁸⁸ From a local place's labyrinthine complex of associational traces, he achieved cosmic atmospheres rife with supernatural beings entirely composed of mocking faces or translucent eyes.⁸⁹ While the gaze in these supernatural contexts was, again, almost an ironic reflection of his own works' supernaturalism, the implication of an unreturned, disintegrating, or decaying gaze was another mood altogether different in Lovecraft's later works.⁹⁰ As experiences of the traditional sort were on the wane, traditionalism's and past history's perceived destruction or obfuscation spurred Lovecraft's use of these alternative gazes. Therefore, the *cosmicism* developed by Lovecraft grew in its grotesqueness in order to enable him to allegorically represent modernity's random, indifferent nature.⁹¹ The shattering experience of being confronted with the inhuman Other Gods' blind, indifferent eyes would be one such allegorical figuration. From referring to past emanations, the idea of cosmic fear, where one shockingly experiences the aura's disintegration, was commonly accompanied by moments of cosmic beauty or reverie in Lovecraft's fiction.⁹² Overall, in his fiction, when the aura's inhuman and grotesque qualities are concentrated on limit experiences, like cosmic fear, it creates a fearfully distorted proximity of proper, auratic distances.⁹³

The idea of proper, auratic distances and their subsequent dismantling lay in how Lovecraft viewed modernity under his own worldview and his fiction's cosmicism. Under the self-

philosophized worldview, called *cosmic* or *scientific indifferentism*, Lovecraft radically de-centered life's significance due to continuous, scientific breakthroughs that dwarfed humanity's place in the universe.⁹⁴ On the other hand, cosmicism follows a similar nihilistic theme, but it is more of a fictional, aesthetic experience, where Lovecraft's characters experience the universe as inhabited by abyssal forces hostile to mankind.⁹⁵ Although nihilistic in its outlook, Lovecraft argued that cosmic indifferentism supported the idea of a traditional culture that necessitated the use of continuous symbols and values, which complemented mankind's decentered, yet continuous, status.⁹⁶ Consequently, the mythology created by Lovecraft did not necessarily reject scientific positivism, and he was quick to demythologize his own myths.⁹⁷ Lovecraft used positivism as his framing belief, but he felt constrained to acknowledge it in his stories as he found objective reality, as revealed by an endlessly predictable, repetitious science, to be malnourishing for the supernatural fiction writer's palate.⁹⁸ Similarly, while the dream world is evident in many of his writings, Lovecraft valued the spectral experience as being experienced from the outside as an aesthetic form, so that it would attain aesthetic autonomy and validity.⁹⁹ This belief is reflected in his fiction's dialectic images and shocking reversals that suggest the possibility of wider, yet horrifying, experiences that might bring an overturning or, at least, a momentary suspension of the universe's natural laws.¹⁰⁰

With his fascination of past auras, Lovecraft sought to create an aesthetic refuge from modernity, and his stories' experiences involved an adventurous expectancy coupled with an elusive, past memory.¹⁰¹ Lovecraft, like his fiction's troubled heroes, sought to achieve coherence in a world that lacked inherent meaning, albeit it contained the possibilities for both beautiful and horrific discoveries.¹⁰² In many instances, Lovecraft's troubled heroes often functioned as literary proxies for him to vicariously search for meaning in the weird tales and

folkways that surrounded him.¹⁰³ His search stemmed from the rational that human beings desire to know absolutely everything, no matter what their imagined fears conjured up, so a constant tension is created between the rational and the limit experience, typically madness, especially within Lovecraft's fiction.¹⁰⁴ Lovecraft's interest in this absolute knowledge mainly laid within his created imagery's deformations into the grotesque and arabesque.¹⁰⁵ In essence, he was questing for a hauntology that could conjure modern, technological innovation's spirit – as to ascertain modernity's worth.¹⁰⁶

In his questing, another idea called the *involuntary memory* is evoked, where the subject of gaze evokes a never before consciously registered memory into its beholder, so, when experienced, this subject has all the striking fascination of absolute newness.¹⁰⁷ Within the scope of modernity, Lovecraft described material objects, produced by a tradition of craftsmanship, as having the capacity to evoke epic memory and to form a springboard for the imagination.¹⁰⁸ Here, Lovecraft introduced several anecdotes of his own experiences from a brief, yet profound, visit to old, colonial towns in Marblehead, Massachusetts during 1922.¹⁰⁹ These towns' collective effects on Lovecraft resulted in an overpowering beauty alongside a "mystical" sense of cosmic identification and totality.¹¹⁰ The collective histories, the past's trace and nearness, that surrounded these towns expanded beyond merely the material possession of these objects as Lovecraft reflected into their local histories, traditions, legends, and folklore.¹¹¹

As he increasingly incorporated his antiquarian researches into his stories, Lovecraft elevated his participation from solely being a spectator or an outsider into an active participant engaged with New England's political unconsciousness.¹¹² From that point onwards, tradition's preservation and reinvention were his lynchpin for countering a hated modernity.¹¹³ New England, itself, became an expositive model for his fictional towns of Dunwich and Innsmouth,

where Lovecraft effectively established the means to a hauntology – what lied beyond scientific positivism.¹¹⁴ In other studies, Lovecraft ventured into astronomy with a surprising receptiveness to its theories as he linked it to the idea of cosmic beauty and the experience of the *veil*: beautiful imaginings that either give semblance to reality or simply appear as real, albeit they always hide ultimate reality.¹¹⁵ When purely casted from a scientific lens, aesthetic patterns discovered in reverie vanished when the aesthetic mood evaporated.¹¹⁶ Lovecraft's use of astronomy retained its aesthetic patterns through his fiction's cosmic reverie, where the stars, themselves, as the object, returned the gaze to the beholder, therefore creating a two-way connection between subjects.¹¹⁷ Alongside cosmic reverie, cosmic fear became the means for both himself and future writers to establish a literary mode that subtly distorted social reality without openly contradicting it.¹¹⁸ This led to the Cthulhu Mythos' creation, a lasting, shared construct among writers.¹¹⁹

As related to his antiquarian researches and as a culmination of his authorship, the novella, "The Shadow over Innsmouth," integrated the auratic experience and the historical trace with an economic account.¹²⁰ The story's town, as inhabited by crazed, aquatic fishmen, expressly dealt with its economic history as the story's basis is about how the town's founders, the Marsh family, acquired their wealth.¹²¹ The character Captain Obed Marsh made a demonic deal with the South Seas' fish-frog-like creatures in the mid-1840s for their precious, metallic jewelry in exchange for human sacrifices and interbreeding rights with humans.¹²² From the objects and people to the social relationships and religious institutions, the economic narrative instilled an aura of weirdness into the overall, narrative elements.¹²³ In the story's closing, the narrator, who is the protagonist, learned he is related to the Marsh family and the hybrid creatures. Through his mysterious great-grandmother's extravagant jewelry, he discovered its origins are from the

Marsh family.¹²⁴ Upon this realization, the narrator experiences a series of non-frightening dreams, where he envisioned himself as one of the hybrid creatures. He discovered, upon awakening, that he has acquired the “Innsmouth look,” which caused him to make arrangements to rejoin the Deep Ones in their legendary city beneath the waves at the story’s end.¹²⁵ With economics as the story’s focal point, topics of heredity, race, and culture stream entered into the story’s progression as a richly intertwined example of Lovecraft’s later interests in antiquarianism and family genealogy.¹²⁶

Many of Lovecraft's concepts and general methodology are comparable to how *Nature's Prototypes* is structured, especially in their heterogeneous, composite forms and troubled characters. As a project built upon ongoing inquiries into biological fields, the series actively uses realism to envision its base exposition, such as pathology influencing the umber cell's physiology and ecological phenomena, like Oregon's Neskowin Ghost Forest, shaping the post-dystopian worldscape. In the latter example, envisioning a fractured, wartorn worldscape, where multitudes of extremely adapted organisms still inhabit, necessitates the need for proper analogs that could mimic the projected outcomes. While the Preservers and Conservers are both the world's veritable demiurges, the past appears as anachronistic remnants that are either integrated or disjunctive within the present timeline. The conditions faced by the newer inhabitants – kinsfolks, nightstalkers, and dredgers – would be reciprocated within their chimeric, physical features and transient emotions. As detailed in the previous chapters, the imposed flux and catalysts stem from the Master figures, especially from the Conservers, as the worldskins and colossi continue to occupy the world. From there, the world's geography would be fundamentally changed as living natural disasters, primarily aquatic colossi, attempted to reform and to destroy the Preservers' contingencies. Through centuries of receding coastlines, irregular

flooding, and unnatural wave formations, ghost forests would become the dominant landscapes as a majority of the Preservers' hidden bunkers were turned into flooded tombs.

Conditioned by the above factors, *Nature's Prototypes'* characters take off after similar character traits found in Lovecraft's troubled heroes and subjects of gaze. The aesthetic theme of cosmicism is a largely comparable descriptor for the kinsfolks' evolving perspectives on the Masters and their creations. Even beyond The Artificer's or The Anachronist's weavings, other anachronistic elements' growing resurgence drastically alters kinsfolk societies' lifestyles, where some are spurred into action to face the threats; some are coerced or rallied into joining the threats; and some are plainly felled by the threats. In just these three scenarios, the kinsfolks as sentient species would be pushed past their breaking points as powerful, foreign forces either directly assault them or send proxies in the form of their former neighbors, friends, and lovers. In the Lovecraftian context, the Fringeweavers and the Frontiersmen would be the troubled heroes and the Masters, primarily the Preservers, would be the hostile, abyssal forces. As troubled heroes, yet where they would differ from Lovecraft's archetype, these kinsfolks would majorly overcome the initial, maddening experience evoked by their subjects of gaze, where, instead, they each act through foolhardy heroism.

Despite this heroism, the past world's remnants as the subjects of gaze can still have a profound influence on both the more stalwart hearts and, more commonly, the converted, meek hearts due to the involuntary memories they surfaced. Having the animacytes as ancestors, who were imprinted with the Masters' vast archive of knowledge, meant that kinsfolks, as a whole, could become easily reverent for or coveting of these strange outsiders, namely the True Artisans. The True Artisans' specific factions, called the *Red Legion*, *The Anointed*, and the *Gloomwings*, would foster extreme personas and radicalized objectives. Aside from the

lattermost faction, both the Red Legion and The Anointed focus more on assimilating their converts into personas that are utterly displaced from their previous selves as they adopt their faction leaders' political agendas and other special interests. Based off the series' central theme of man versus nature, the former faction transforms its *legionaries* into bloodlustful extremists that idolize the world's unforgiving, wilder nature as they seek to surpass it in gorier, more deliberate displays (Figure 3.1.). While the Red Legion's idolatry follows a warped, natural selection belief, the latter faction transforms its *acolytes* into emotionless husks that act as physical extensions of their faction leader in an emulation of the Preserver's Anthropoles network. To become Anointed means that the converts are subsumed into a greater collective that seeks to expedite the kinsfolks' apparent role in unearthing the Preservers' remnants. By doing so, they seek to expunge their "bestial corruption" or Conserver origins.

The Gloomwings, as the last faction, is less about the forcible conformity and the radicalization of its members (Figure 3.2.). However, the presence of a unifying, central ideal still lays within their belief in fellowship and a common good. This core belief is both built upon a two-way mutualism and a retained level of subjectivity, which are two traits mostly alien in the previous factions. More clique than cult, this faction is, eventually, composed of five members, who each hail from different walks of life. Two True Artisans, a Conserver, and two kinsfolks coexist as companions banded together by scarred, despondent histories and a common purpose to pacify their world's turbulence. This latter purpose culminates as conflicts with the True Artisans, the *Worldskin Query*, a modern-revival of the Conservers' heimrwurms; and even kinsfolks.

Figure 3.1. Illustration from the *Divine Comedy* series, titled *The Red Legion*. Two men, Romano and Valerio Beck, and Helde have a close bond, which the Imperial Guard has been attempting to encourage by the newest growth of the members, as another member coming from the Red Legion, the faction's legislative body, from this type of second soldiers. © 2018 Valerio Beck.



Figure 3.1. Illustration from the *Theatre Tapestry* series, titled *The Red Legion*. Totemic figures lacerate and collect flesh and fluids from a cloven hoof, which the topmost figure cultivates into a plantlike growth. As exemplified by the animal prints and the membranous growths stemming from the fluid trickling and the plant, the faction's legionaries form from this type of visceral exchange. Figure by Taylor Bardon.

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To match such unlucky odds and multitudes, the Gloomwings' members undergo a similar process of transformation and connectivity, but these individuals gain newfound abilities that are on par with full-fledged True Artisans while still maintaining their sentience. With this power, their activities turn from ripples into waves as they uncover the past's systems and accordingly dismantle them. However, save for rare associations, the Gloomwings are widely regarded as freakish outcasts, even by a turbulent world's standards, due to group's disparate composition. As vagrants and outcasts vying to play heroes, they take on varying Byronic aspects and picaresque characteristics that cause them to preferably act as hidden operatives, who treat this lifestyle and the greater world as fine theatre – comedy, tragedy, and the repressed are their forte. Still thoroughly their own individuals, the Gloomwings' companionships are unique phenomena within the Post-Cataclysm timeline.

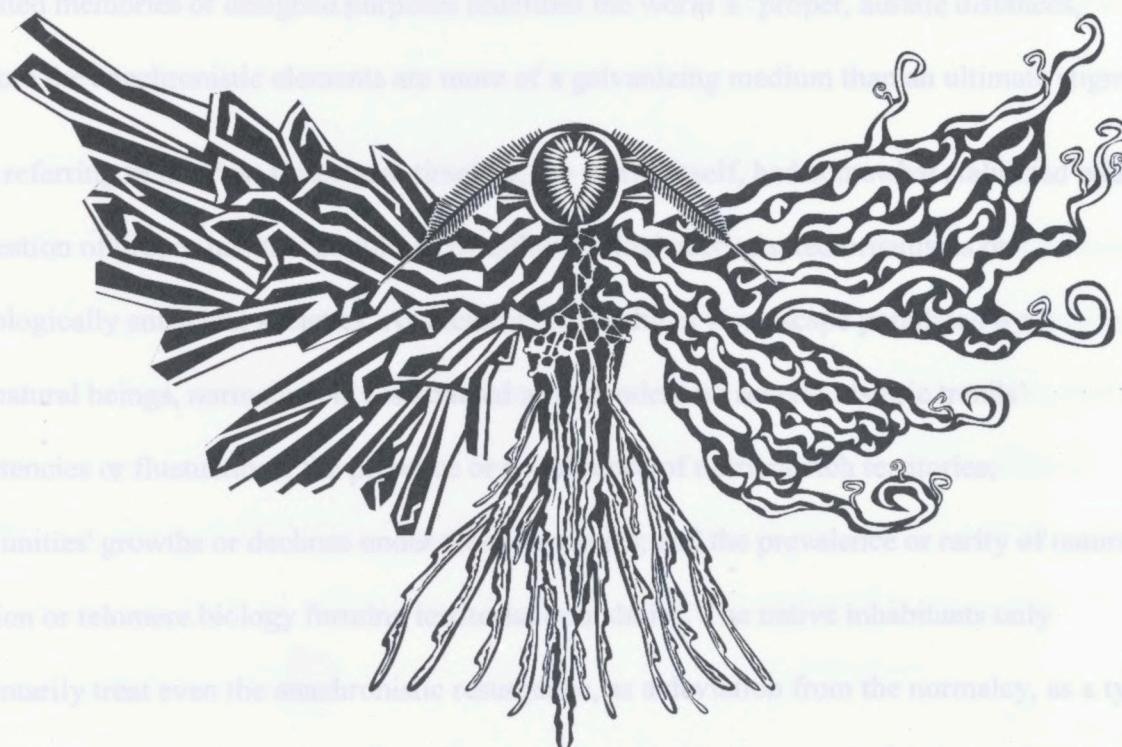


Figure 3.2. Illustration from the *Theatre Tapestry* series, titled *The Gloomwings*. Multiform symbol, in the form of a moth, which denotes the five characters' nomadic journeys, or "fluttering," through many domains, namely the lands, the skies, and the seas. The central, open eye trailing towards the membrane situated on the figure's abdomen relates to the faction's interdependence among its members. Omniscient and striking when in its full efficiency, but blind and vulnerable when fragmented. Figure by Taylor Bardon.

memories, or, generally, a new source of conflict, a majority of them are specific to Lovecraft, to

Beyond characters who are similar to Lovecraft's archetype and the surfacing truths, or cosmicism, they face, the similarities in narrative modes become less aligned. However, Lovecraft's demythologizing expressly is a creative strategy, similarly, found in *Nature's* *Prototypes*. By synthesizing the series' fictional concepts from actual, biological concepts, many of the more fantastical or supernatural elements found in the series are grounded and naturalized into standard roles and ecological sets. The ongoing exposition, especially when reintroducing the anachronistic elements, is meant to feel more alien for actual viewers. When relating to the series' narrative elements, it is meant to feel either plainly natural or strangely familiar. Characters, who, since their ancestors or past lives, have been surviving in the shifting world, and they have become either adapted or, at least, jaded to its extreme conditions and inhospitality. Whether through the aforementioned heroism, reverie, or fear, the characters' imprinted memories or designed purposes redefines the world's "proper, auratic distances," therefore the anachronistic elements are more of a galvanizing medium than an ultimate stigma.

In referring to the Post-Cataclysm timeline, the world, itself, had somewhat stabilized with the creation of proper habitats populated by either ecologically adapted organisms or technologically sufficient societies. As reciprocated within a worldscape populated by supernatural beings, normalcy only is attained as dependent on several historic trends' consistencies or fluctuations: the presence or the absence of nutrient-rich territories; communities' growths or declines under these territories; and the prevalence or rarity of natural selection or telomere biology forming territorial boundaries. The native inhabitants only momentarily treat even the anachronistic resurgence, as a deviation from the normalcy, as a type of unfathomable, mythic origins. When faced with unveiled truths, proof of their involuntary

memories, or, generally, a new source of conflict, a majority of them are quick to absorb, to reflect, and to act on these newfound stimuli.

Unlike Lovecraft's slow accumulation of details, which serve to create auratic experiences of cosmic reverie or fear, the series' buildup of an objective reality serves to reflect and to connect empirical, yet novel, insights coming from scientific positivism. From the outset, this buildup of such a reality begins to contradict or, at least, to parallel Lovecraft's narrative mode. Affective, personal philosophies framing this series, especially of worldviews, come primarily from pragmatism, where a blended combination of social conformity, tinged skepticism, and agnostic perspectives reflect an abrasive, yet inspiringly resilient, world. With positivism as a galvanizing medium, remarks similar to an "endlessly predictable, repetitious science" are welcoming due to qualifying scientific trends and advancements as commonplace and one of modern society's center points. However, like Lovecraft's sentiment, positivism is a compounded medium rife with aesthetic symbols and patterns alongside, especially as a sequential artist, possible narrative analogs and allegories.

Lovecraft's preference for auratic or spectral experiences originating from materiality rather than solely metaphysics is another commonality found within the series. The series' supernatural components, especially the phyla's transmutability or, essentially, the umber cell, are positioned as autonomous concepts within the landscape, such as naturally occurring, yet still impressive in their unknown limits. In good narrative form, like Lovecraft, the series contains dialectic images and shocking reversals, but, rather than cause an overturning or a momentary suspension of the universe's natural laws, natural laws are being effectively reidentified to create an alternative, evolutionary history.

In reference back to his troubled heroes, Lovecraft's establishment of an aesthetic refuge from modernity is both comparable and distinct from this series' authorial objective. Comparable elements include how his stories involve adventure and past memory as forwarded by his troubled heroes' incessant search for either absolute knowledge or coherence in their worlds. Their limit experiences, as caused by contact with the Outside, similarly occur within the aforementioned points on the kinsfolks' subject of gaze. The kinsfolks' resultant deformations into distortions – describable as grotesque and arabesque – by the anachronistic elements evokes its own hauntology of the series' inspirations. However, dissimilar to Lovecraft's troubled heroes' experiences and roles, the series' kinsfolks and other sentient beings are less vicarious proxies and more autonomous characters. The series' main objective through its character interactions is to establish and to orient expanding, personal insights into the Anthropocene's auratic and physical distances both towards and from the greater, natural world.

Lovecraft's antiquarian research, especially in the context of becoming an active participant in his historical subjects, is a worthy focus, but the series' own use of anthropology is one of its many other components. In either the context of past societies or even the Preservers' future society, the appropriation of human cultures, currently, is used to produce transformative, expositional details, such as when characterizing the kinsfolks' subclassifications and other orderings. Since the animacytes' imprints of past human identities and knowledge go on to form kinsfolks' societal constructions, this appropriation, in the anthropological respect, surmises as a myriad of abstracted, extrapolated, and "chimerized," cultural societies. Beyond simply influencing character quirks, cultural blending and distillation is an ongoing, future shaper for creating an "enlivened world" denoted by nuanced, yet fragmented, collectives.

Overall, the series' narrative mode can be closely compared to Lovecraft's Cthulhu Mythos, where it builds a metanarrative about weird tales' scientific aesthetics, preferred traditions, and cosmic auras. As a near mythos, itself, given its landscape, *Nature's Prototypes* concurrently is about building a complex, revisitble plot structure through the series' biological inquiries, empirical lens, and posthumanist settings.

In particular interactive media, like video games and, to a lesser extent, tabletop games. As the series has been finding its original voice, the authorial absorption of these inspirational media has become more judicious in which visual aesthetics, narrative themes, or plot mechanics are gleaned from them. However, while the series' content is described as being action-centric yet character-driven, visceral, gory intellectual properties (or IP's) are only one layer of substance for this series. A roleplaying element integrated into these gratuitous displays creates the opportunity for more wholistic, varied experiences that can help audiences explore greater points of intrigue or psychological depths. In general, video games, as an animated, multimedia platform, commonly provide telometrics and invaluable references for visualizing imaginary entities and their interactions, especially when relating said entities' ecologies into the greater plot threads.

In reference to minute inspirations, straightforward, action-centric IP's, like CAPCOM's *Resident Evil* (or *Biohazard*) series and *Metal Gear* series, can run a gamut from focusing on schlocky, international terrorism (espionage thrills), Bio Organic Weapons (or B.O.W.s) to focusing on the big-game hunting of mystical, supernatural, and even divine-powered monsters. In other IP's that introduce worldbuilding, such as FromSoftware's *Blindfolds* title and Guerrilla Games' *Horizon Zero Dawn* title, the genre can run from exploring Western, Gothic settings casted into an uncending nightmare with a Lovecraftian twist and minimal narration to exploring a posthumanist, futuristic world of primitive, yet technologically advancing, tribal societies besieged

3.2 THE WORLDSKIN AND TWISTED LIFE

With one of the series' parallels described in most of its comparable themes and concepts alongside some of its more nuanced dissimilarities, one of *Nature's Prototypes'* more recent, direct inspirations will be analyzed in this final section. As previously discussed, aside from the empirical sciences, the next largest influencer for this series' conception is media entertainment, in particular interactive media, like video games and, to a lesser extent, tabletop games. As the series has been finding its original voice, the authorial absorption of these inspirational media has become more judicious in what visual aesthetics, narrative themes, or plot mechanics are gleaned from them. However, while the series' content is described as being action-centric yet character-driven, visceral, gory intellectual properties (or IPs) are only one layer of substance for this series. A roleplaying element integrated into these gratuitous displays creates the opportunity for more wholistic, varied experiences that can help audiences explore greater points of intrigue or psychological depths. In general, video games, as an animated, multimedia platform, commonly provide telemetries and invaluable references for visualizing imaginary entities and their interactions, especially when relating said entities' ecologies into the greater plot threadings.

In reference to minute inspirations, straightforward, action-centric IPs, like CAPCOM's *Resident Evil* (or *Biohazard*) series and *Monster Hunter* series, can run a gamut from focusing on schlocky, international bioterrorism conducted through Bio Organic Weapons (or B.O.W.s) to focusing on the big-game hunting of mystical, supernatural, and even divine-powered monsters. In other IPs that introduce worldbuilding, such as FromSoftware's *Bloodborne* title and Guerrilla Games' *Horizon Zero Dawn* title, the gamut can run from exploring Western, Gothic settings casted into an unending nightmare with a Lovecraftian twist and minimal narration to exploring a posthumanist, future world of primitive, yet technologically advancing, tribal societies besieged

by autonomous machines and artificial intelligences. In further distancing from conflict-focused action themes, Unknown Worlds Entertainment's *Subnautica* title is an example of an IP that almost unapologetically focuses on worldbuilding as contrasted to its combat mechanics, where a pacifist mindset shapes the playable character's survival means – albeit a heated knife or a pneumatic arm goes a long way in self-defense.

Many other different, inspiring IPs that either explicitly focus on or normally diverge from conflict-focused action plots and themes exist for *Nature's Prototypes*, but, in particular, a much older, yet consistently reinvented, and inspiring IP is *Dungeons & Dragons* (or D&D). While Wizards of the Coast's IP easily predates *Nature's Prototypes*' author by nineteen years, the author's first exposure to it was through Bioware's *Neverwinter Nights* title, an adaptation of pen-and-paper style D&D as a computer roleplaying game released in 2002.

This adaptation did not necessarily greatly deviate from D&D's rulesets or fantasy settings as it merely, yet effectively, translated them into realtime instances. With the addition of a universal "pause" function, the title's original campaign and expansions created a one-hundred-or-more-hour-long journey of character development based around sequential choices guided by an alignment system. This system oriented the player's character choices on situations that dealt with a moral or ethical quandary, which structured the narratives' main plot and subplots around multiple, interchangeable paths. While most derived character personalities would come off as archetypal, D&D's overall theatrics and character-driven narratives became a staple for exploring character personalities and other amalgamated subject matter during the author's youth.

The concept and implications of a heterogeneous, composite body introduced within the last section is especially true for D&D's composition. Its assimilation and appropriation of actual,

multicultural lore and mythos is incredibly sizeable, yet too faceted for this section's focus. Instead, a slight amount of D&D's mode will be analyzed in a pen-and-paper supplement titled *Elder Evils*. In keeping with the Lovecraftian context, this supplement conceptualizes the Lovecraftian concepts of "inhuman Other Gods" and "supernatural beings entirely composed of mocking faces or translucent eyes." As *elder evils*, Lovecraft's allegorical figures are rendered as material beings that are incarnates of cosmic fear and catalyzed dread. In the scope of D&D's magical, fantasy settings, elder evils become describable as the following:

When elder evils stir, the world groans; when they awaken, the world weeps. Buried in the deepest bowels of the Underdark, hidden in the farthest reaches of the multiverse, or lost in the gulfs between realities are terrible things that exist only to destroy or horribly remake creation. So mighty are these ancient beings that even the gods think twice about standing against them. Mortals who are aware of their existence viciously suppress that knowledge and destroy any who would serve such things. Even if an elder evil can be forced back to whence it came, its mere presence changes the world forever. In short, it is a campaign ender.¹²⁷

As eldritch forces against creation, itself, elder evils easily attract villainous or desperate mortals through whispers of power and grandeur offered for that specific evil's cosmic release or perpetuated allowance into the "Material Plane."¹²⁸ In most instances, the elder evil itself does not typically manifest, where, more commonly, merely an extension of its foul will as an aspect or an avatar ushers in its true self's world-altering nature.¹²⁹ Elder evils' near unsurpassable powers and influences act as mostly a foil for *deus ex machine*, where epic heroes become progressively unchallengeable by their typical adversaries.¹³⁰

The cliché of "all good things must come to an end" is an apt summary of this reversal, where said heroes can attain their seats of power from pantheons of deities and other godlike beings.¹³¹ As presented in this supplement, elder evils are somewhat categorical beings due to the

immanence they exhibit. Shared character traits, such as immunities to any “mundane, spell-like effects” that would alter their forms or influences and a telepathic omniscience, partially equalize and encapsulate each of these titanic beings’ cosmic configurations into digestible, yet still enfeebling, material terms.¹³² The mechanics behind elder evils’ awakenings, thus the beginning of an apocalypse, manifests through influential signs that are either reflections of each individual elder evil’s purpose or nature or warnings from the mortal gods, who are described as being often constrained from direct involvement.¹³³ These signs are measured in terms of intensity – faint, moderate, strong, and overwhelming – where knowledgeable or inquisitive individuals, who are steeped in ancient or forbidden knowledge, are the only ones readily able to recognize their grim implications.¹³⁴

To give an example of one such elder evil, Ragnorra, Mother of Monsters, is a being described as arising from the time before creation as a perverted force of life that births monstrosities from her swollen body (Figure 3.3.).¹³⁵ As an instance of divine intervention, Ragnorra was casted into the “space between planes” by the mortal gods.¹³⁶ However, every 1,500 years, the being reappears in the Material Plane as a blood-red comet, where her dreadful seed and falling stars produce monstrous offspring of the impacted world’s inhabitants.¹³⁷ The remnants of previous, victimized worlds offer hints that this comet is more of a “signpost” than a warning.¹³⁸ With the raining of her spores, plants, animals, and, even, inanimate objects are parasitized and reconstituted by blisters that birth new, abhorrent life.¹³⁹ Ragnorra’s character is described as a vast, yet non-conscious, intelligence that operates on a dreamlike intuition to create inexplicably deep plans.¹⁴⁰ She seeks to rectify the mortal gods’ “errors” by reshaping all life according to her own vision, despite the contradictions, destruction, and pain she causes to her progeny due to her horrid, new order.¹⁴¹ As Ragnorra breaches into a targeted realm, her

collision causes her body to break apart into infectious debris and dust that globally spreads her awful fecundity.¹⁴²



Figure 3.3. “Ragnorra has arrived to remake the world in her image.”¹⁴³ Figure by Daarken © Wizards of the Coast.

Ragnorra’s followers are a cult-like society known as the Malshapers, who are individuals that revere the Mother of Monsters for her power and guide her plans.¹⁴⁴ Each cult member is a disturbingly disfigured visage of their patron with distended jaws, prominent or horned brows, protruding teeth, or extra tongues.¹⁴⁵ By creating a “trail” of a world’s native life for their dreaming patron, they lure her to targeted worlds beyond their home planes.¹⁴⁶ In a variable timeline as facilitated by her Malshapers, Ragnorra’s sign, titled as *Twisted Life*, progressively

becomes more apparent as a surge of “corrupt, positive” energy resculpts an entire world’s ~~rich~~
life.¹⁴⁷ ~~A culture for the neurotangle, their life is centered around the neurotangle, and it is the neuro-~~

Her sign’s faint to moderate intensities empower healing and other regenerative effects, where they eventually cause warts and blemishes to appear on targets under such restorative effects.¹⁴⁸ More than just unsightly, these skin deformities progress into growing, diseased pustules that spawn a swarm of mundane pests, such as bats, rats, spiders, or locusts, upon the infected host’s death.¹⁴⁹ Eventually, even cities and the surrounding landscapes’ inanimate and abiotic elements are intermittently morphed into these verminous swarms and more formidable creatures.¹⁵⁰ In her sign’s strong to overwhelming intensities, greater, verminous swarms and ravaged corpses rain down from the sky: heralding Ragnorra’s arrival.¹⁵¹ With a blazing, mile-long trail of corrupted essence in tow, a superheated crater thirty miles in diameter is created from her comet’s impact, which, also, means most of Ragnorra’s physical body is subsumed.¹⁵² Ragnorra’s impact’s force and heat spews pulverized earth into the surrounding atmosphere alongside her scattered remains and spores.¹⁵³ As an ashen pall descends over much of the world, the full extent of her Twisted Life becomes manifested as aberrant creatures continuously form in bouts of fatal and revitalizing recombination.¹⁵⁴ ~~her twisted self. To stabilize her colossal form,~~

Within the crater’s heart, Ragnorra has already started regrowing amidst the resultant, scalded wasteland of her remains.¹⁵⁵ The earliest signs of her Twisted Life are already, impossibly teeming from the seared rock during her regrowth.¹⁵⁶ From there, Ragnorra’s new shape grows into two distinct parts: the *neurotangle* and the *worldskin*. Blanketing the crater, the neurotangle is a thick canopy of twisted, thorny fibers that extends and thickens as Ragnorra regains her senses and strength.¹⁵⁷ This canopy forms a thirty-foot thick dome rising about eighty feet above the crater, which spreads out as a thin mat the more the *worldskin* reaches beyond

it.¹⁵⁸ Alongside the ashen pall casted by Ragnorra's impact, obsidian walls were formed, which act as a ceiling for the neurotangle, therefore, effectively, shadowing the crater's centermost portion.¹⁵⁹ The worldskin is an extension of Ragnorra's corrupting influence over all living things as they, eventually, become connected to her through this massive network.¹⁶⁰ Spanning across many environments, this network is denoted by pulsing, earthen veins; branching, skyward, and neural fibers; and arcing, gelatinous, and oceanic tendrils.¹⁶¹ Cysts, abscesses, and spores dot this network as additional, foul growths, where each takes on ubiquitous, magical effects.¹⁶²

Ultimately, Ragnorra transitions from her worm-like, dreaming form into her *True Mother* form before detaching from the world's surface in order to continue her path towards the next world to "correct" (Figure 3.4.).¹⁶³ In her true form, Ragnorra sheds her worm-like, amoeboid body and merges with the neurotangle.¹⁶⁴ Whether progeny or parasite, Ragnorra's consciousness is reawakened as she seeks to rid herself of any interlopers and recycle her connected materials into a new generation of creations.¹⁶⁵ However, as much as her newfound form is a final step to her ultimate aim, it is, also, a fatal one as the neurotangle does not offer the same protective, restorative properties as her fragmented self. To stabilize her colossal form, Ragnorra draws from the worldskin using an appendage called the *True Mother chord*.¹⁶⁶ This chord can barely contain the flow of corrupt energy she is siphoning to sustain herself. If severed, Ragnorra essentially is "defeated" as she detaches her being's remnants from the world.¹⁶⁷ Her defeat quickly affects her progeny as they instantaneously dissolve without their life-giver's worldskin.¹⁶⁸



Figure 3.4. "When Ragnorra is ready to complete her work, she assumes the form of the True Mother."¹⁶⁹ Figure © Wizards of the Coast.

Now, to transition into this elder evil's relation to *Nature's Prototypes*, as mentioned in the previous section, the Worldskin Query is a major faction within the series. As a "modern-revival of the Conservers' heimrwurms," this faction is composed of symbiotic collectives of worms that take on serpentine, amphibian, and other reptilian forms (Figure 3.5.). Each speciation form is divided or falls into three distinct subsets based on a concentric circle motif: the *Circle of Rhiza*, the *Circle of Kormós* (or *Circle of Kor*), and the *Circle of Flos*. In the previously listed order, the

Circle of Rhiza is the innermost, furtive circle; the Circle of Kor is the intermediate, diplomatic circle; and the Circle of Flos is the outermost, newfound circle. Between the former two, they comprise the Conservers' true surrogate successors, while the Circle of Flos is comprised of "mended" Kinsfolks. With all that as a primer, the Worldskin Query's relationship to Ragnorra is a fracturing, if not total reversal, of that being's abhorrent creation goals.

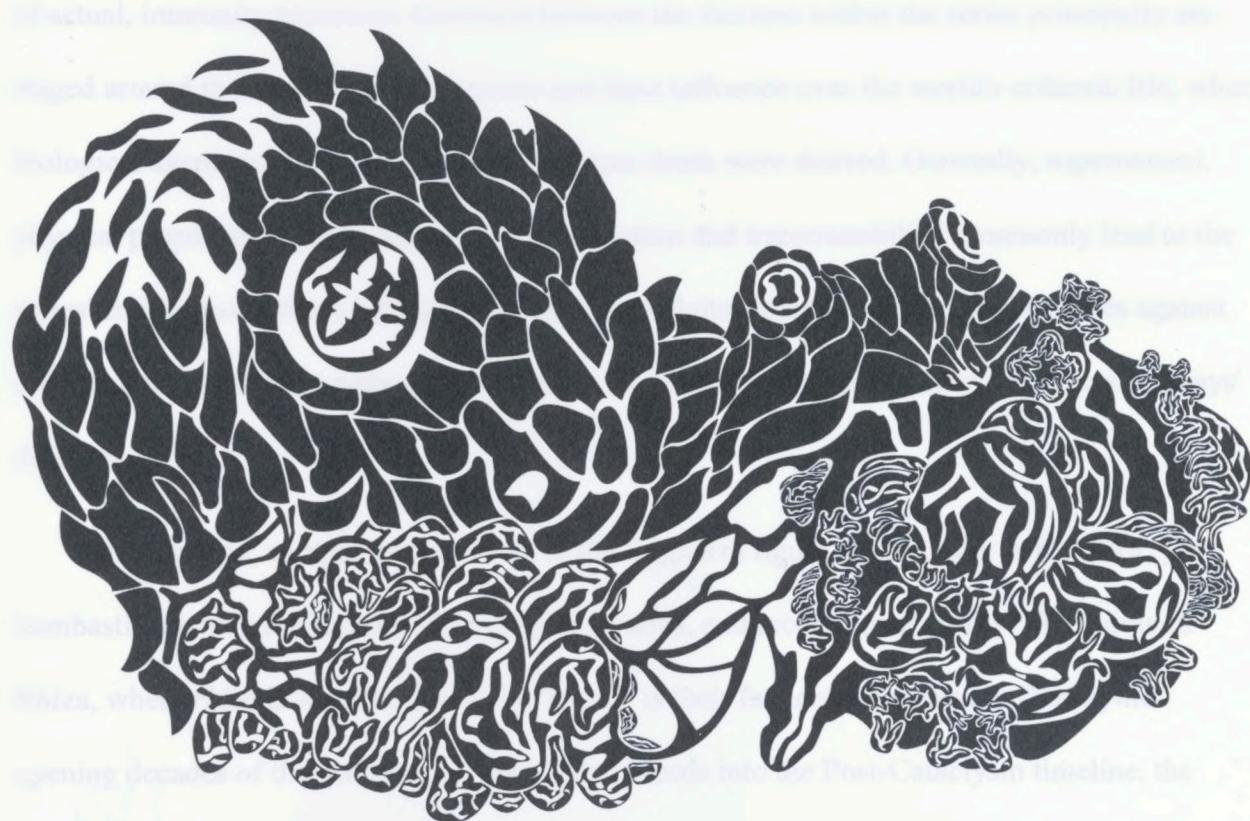


Figure 3.5. A detail from an illustration in the *Theatre Tapestry* series, titled *The Worldskin Query*. This is the faction's main emblem, which shows a snake conjoined with a frog. Both figures are encysted and tumorous as they share and mend each other's "blights." The snake's gaze is peerless, while the frog's gaze is clouded. The snake's form is fractured, while the frog's form is expansive. Within respect to the Circle of Rhiza and the Circle of Kor, each subset interfaces with the world differently yet their renewed purpose is dependent on these key differences. Figure by Taylor Bardon.

The concept of the Conserver worldskin and, by extension, the Worldskin Query, itself, stems from Ragnorra's worldskin due to its emphasis on the interconnectedness between beings, the establishment of a hive-mind network, and the transformation of its linked members. Equally

evocative is Ragnorra's network's physics, where it spans across many different domains through adapting its organic structure into various, different parts via phase changes, analogous, biologic functions; and other physical properties. Aside from being a staple for the overall series, this network's dermal deformities, such as cysts, abscesses, and spores, serve to relate to the worms' immuno-evasive or immunosuppressive capabilities as these deformities are commonly indicative of actual, immunity processes. Conflicts between the factions within the series principally are staged around the anachronistic elements and their influence over the world's endemic life, where biological agents are used to avert or to facilitate death were desired. Generally, supernatural, physical properties, such as heightened regeneration and transmutability, commonly lead to the series' entities using these biological barriers or exploits either to safeguard themselves against other beings' necrotic or pathogenic effects or to, alternatively, breach their opponents' or preys' defenses.

Other general, comparable elements to the Ragnorra figure are the elder evil's aloof, yet bombastic, arrival; the surplus of verminous swarms, and recombinant ability. The Circle of Rhiza, where *rhiza* is Ancient Greek for "roots," is their faction's progenitors. During the opening decades of the stabilization period that bleeds into the Post-Cataclysm timeline, the Circle of Rhiza were one of the anachronistic elements' first reawakenings, but their acclimation into the waking world was a ravenous one. In an evolving conflict known as the *Copper Culling*, the Rhiza worms waged bloodlustful hunts against some of the kinsfolks' earliest ancestors. Little more than bestial helminths at that point in time, these worms acted as a woeful force that effectively eradicated a majority of kinsfolk species. Much like their predecessors, their warring meant that the past's feud between the Masters was returning.

Like the Preservers, the kinsfolks, eventually, conducted counterattacks against the wurms after auspiciously unearthing a Preserver Gaian Grove's ruins, which was one of the first-of-several instances that the kinsfolks came into contact with their anthropocentric creators. Their initial discoveries of the remains of unsuccessfully formed True Artisans gave these ancestral kinsfolks the means to stake their claim in the turbulent world: a finite, yet sufficient, supply of the Degen. Agent. With the conflict's gradual losses now leveled between both warring parties, the wurms began to center their own survival through evolving their cognition, therefore their sentience. With their origins running back deeper towards the Conserver worldsheets, they developed similar sensibilities to their late ancestors; however, the Rhiza wurms had a great divergence in sentiment from them: a profound remorse alongside their refounded empathy (Figure 3.6.).

Query could both stand for their purpose – to heal and rectify the world's ills – its incompleteness or imperfection. As the Circle of Rhiza's most emblematic aspect, the Circle of Rhiza would come to innately understand the pain and suffering being caused by the Preservers and their engineered creations.

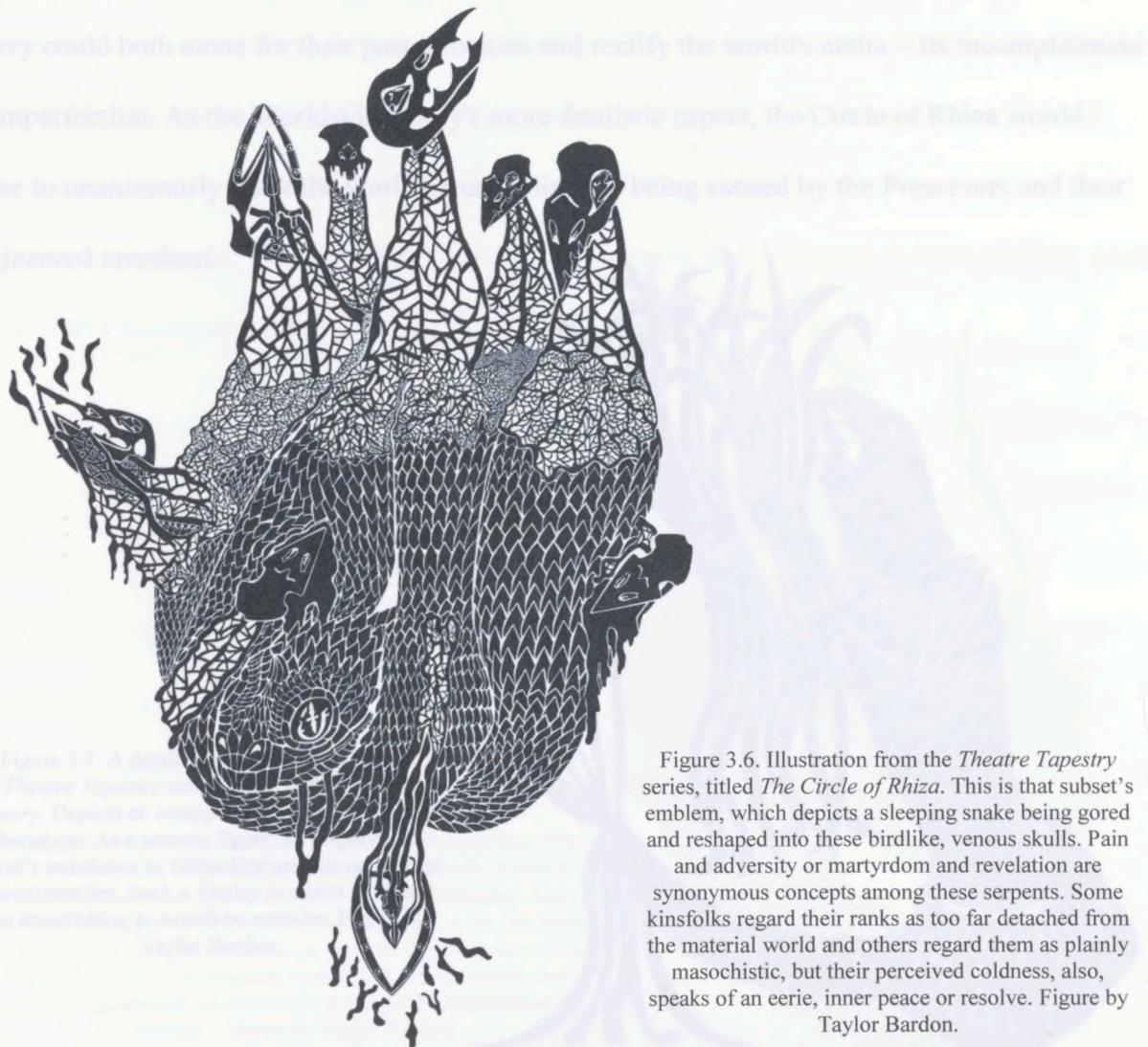


Figure 3.6. Illustration from the *Theatre Tapestry* series, titled *The Circle of Rhiza*. This is that subset's emblem, which depicts a sleeping snake being gored and reshaped into these birdlike, venous skulls. Pain and adversity or martyrdom and revelation are synonymous concepts among these serpents. Some kinsfolks regard their ranks as too far detached from the material world and others regard them as plainly masochistic, but their perceived coldness, also, speaks of an eerie, inner peace or resolve. Figure by Taylor Bardon.

In an event known as *The Great Brumation*, the surviving, yet fertile, Rhiza worms retreated back towards their ancestral sites both in order to reconvene as a singular collective and to meditate upon their transient nature in a forum of a hundred-thousand thoughts. Eventually, led by an influential figure, prime orator, and the faction's past founder, *Mosih the Penitent* became one of the first worm collectives to attain a conjoined, serpentine form in the visage of an archaic beast (Figure 3.7.). Among the Worldskin Query, this form was seen to outwardly reflect their kind's blighted nature as they began to linger upon the very nature of their existence. The deeper they traced their origins to the Conservers, the more bewildered and nihilistic they became, especially among the more common collectives. Mosih, in its influential sphere, renewed its kind's actualized purpose by forming a covenant with its brethren to reunite the scattered worldsheets and cast away the world's "dead skin." By doing so, Mosih believed the Worldskin Query could both atone for their past atrocities and rectify the world's atelia – its incompleteness or imperfection. As the Worldskin Query's more fatalistic aspect, the Circle of Rhiza would come to unanimously mark the world's truest blight as being caused by the Preservers and their engineered creations.

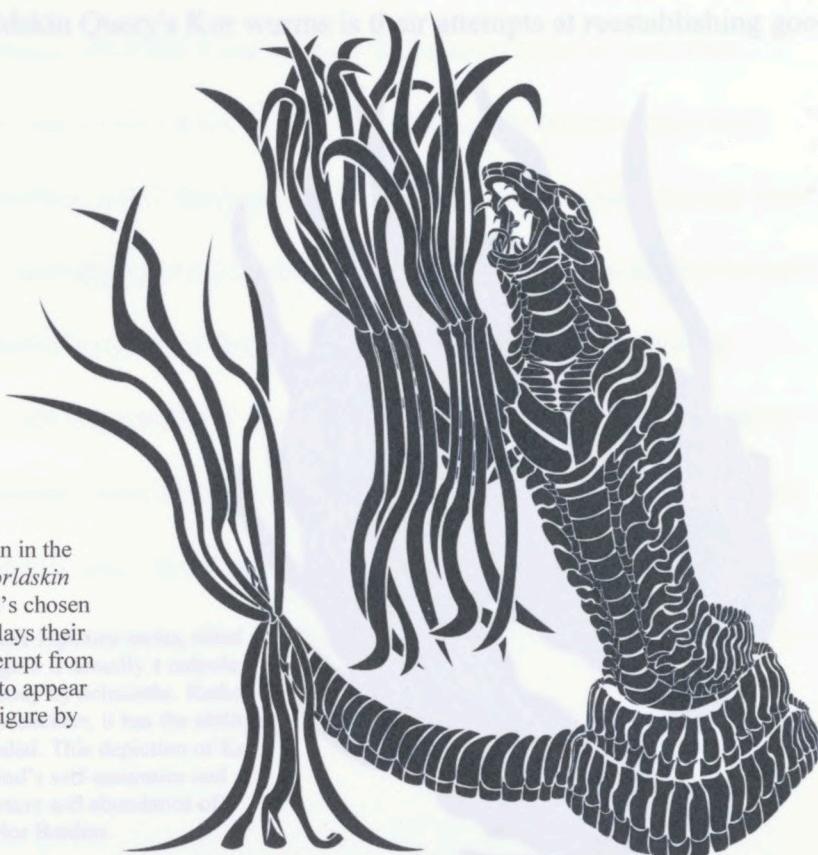


Figure 3.7. A detail from an illustration in the *Theatre Tapestry* series, titled *The Worldskin Query*. Depicts an example of their kind's chosen phenotype. As a totemic figure, it displays their form's transience as ribbonlike tendrils erupt from its extremities. Such a display is meant to appear as brandishing to would-be enemies. Figure by Taylor Bardon.

worms serve to demonstrate their kind's nihilistic tendencies through its inflated postures and self-delusional perspectives. Figure by Taylor Bardon.

The second, intermediate subset is the Circle of Kor, where *kormós* is Greek for "trunk" (Figure 3.8.). Composed of the worms' amphibian forms, members of the Circle of Kor are deviants among the Worldskin Query, who are worm collectives that have volunteered to make pilgrimages across the world. Physically, because of their vagrant lifestyle, the Kor worms are composed less from helminths and more from slime molds. Having this more gelatinous composition gives most Kor worms a slight, added sense of autonomy, where some develop personality quirks and novel associations about their collective self. Rarely, some may grow an attachment to or hierarchical ordering for their individualized worms, which may, in turn, make them grow increasingly estranged from the rest of their kind (Figure 3.9.). Typically though, through their journeying, the Worldskin Query utilizes the Kor worms' role as both a diplomat and an informant. Generally, many newer generations of worms pursue this role in order to broaden their own worldview, which coincidentally, also, affects the entire faction's worldview due to their hive culture. As such Kor worms' greater independence is seen as less selfish and more a dire necessity given the still evolving world's flux and catalysts. Perhaps the most poignant reasoning for the Worldskin Query's Kor worms is their attempts at reestablishing good terms with kinsfolk societies.

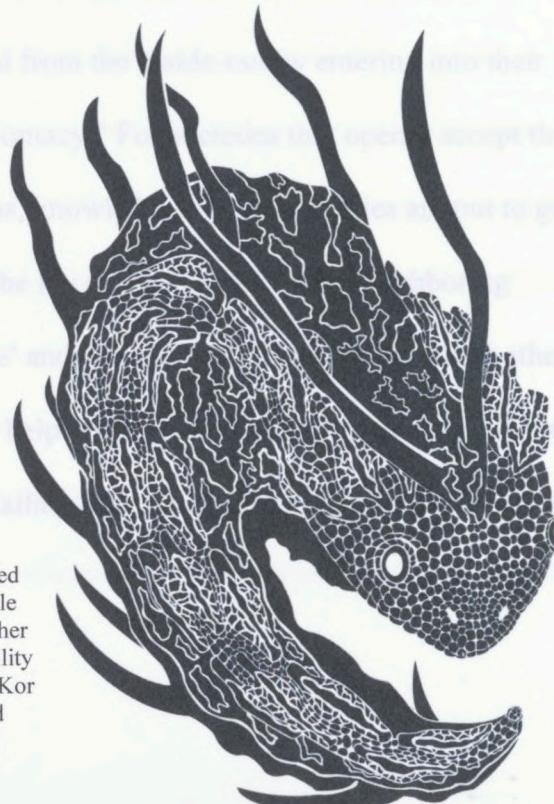
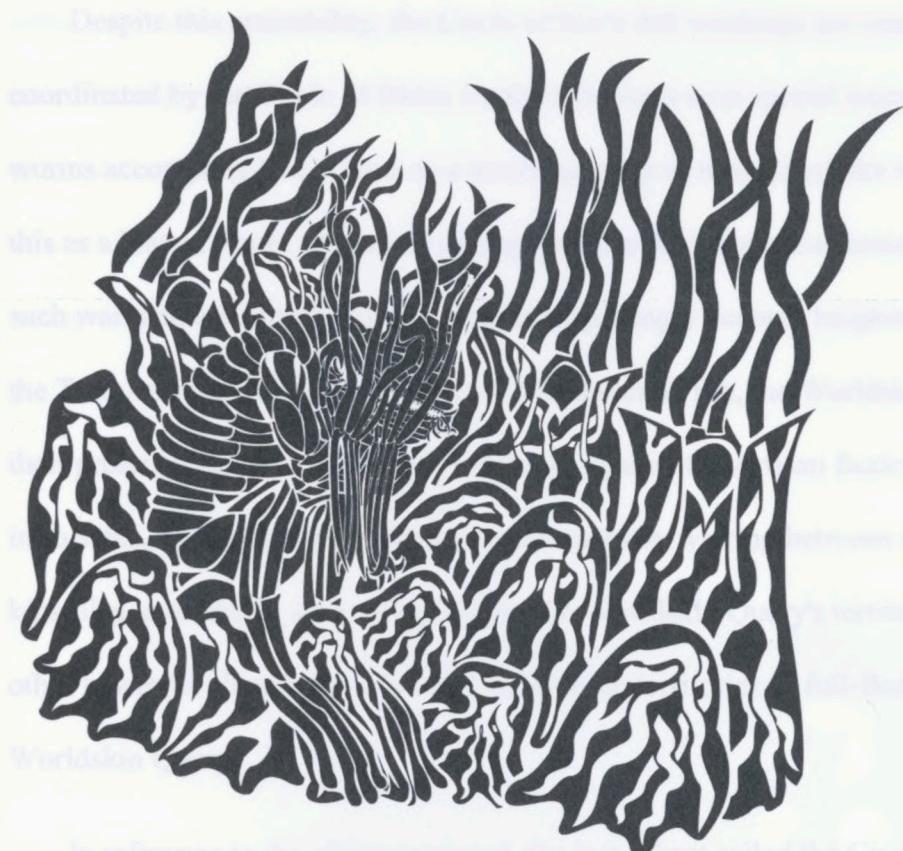


Figure 3.8. Illustration from the *Theatre Tapestry* series, titled *The Circle of Kor*. This emblematic figure is actually a tadpole being parasitized throughout its entire body by helminths. Rather than succumbing to its overzealous bloodsuckers, it has the ability to redirect them to less vital parts as needed. This depiction of Kor worms serves to demonstrate their kind's self-assurance and autonomy through its unfettered posture and abundance of parasites. Figure by Taylor Bardon.



In reference to the frog-like humanoid figure depicted in Circle of Frogs, shown above.

Figure 3.9. A detail from an illustration in the *Theatre Tapestry* series, titled *The Worldskin Query*. Depicts an example of the Kor worms' froglike humanoid form. The totemic figure sits on and around twelve cysts filled with its own progeny. Alongside the figure's grinning expression, its ribbonlike tendrils are less brandished than the snake figure's, which further distances their subsets' worldviews. Figure by Taylor Bardon.

Since the Copper Culling, many kinsfolks have vilified the heimrwurms as merciless savants that seek to eradicate the rest of their kind from the inside-out by entering into their societies through parlaying or bluffing with "diplomacy." For societies that openly accept these amalgamated vagrants, the Kor worms' gregarious, knowledgeable personalities are put to great use as they have an immense, mental catalog of the lay of the land for many neighboring habitats, which helps kinsfolks track nightstalkers' and dredgers' migratory patterns and other haunts. In some cases, the Kor worms may, also, help dreamers and awakeners realize or even materialize their surfacing memories, such as detailing the topography's tillable soils in order to unlock an incredibly rare, agricultural viability.

Despite this amicability, the Circle of Kor's full workings are sometimes only reviewed and coordinated by the Circle of Rhiza for their faction's own special interests. Rarely, do Rhiza wurms accompany Kor wurms as a traveling party as most kinsfolks would immediately identify this as a blatant threat. However, during the True Artisans' reawakenings, the commonality of such warbands or mixed groups would unsurprisingly become heightened. When compared to the True Artisans' conceit and corruption of endemic life, the Worldskin Query is a lesser evil as their presence can actually help to safeguard against the Artisan factions' seemingly otherworldly influences. As the world's tension is surmounted by warring between demi-beings, many kinsfolks, eventually, seek refuge within the Worldskin Query's territories. To their irony, many other kinsfolks already have been living in these territories as full-fledged members of the Worldskin Query.

In reference to the aforementioned, the last subset called the Circle of Flos, where *flos* is Latin for "blossom" or "flower," is entirely composed of initiates who are endemic to the world (Figure 3.10.). While kinsfolks are primarily the common initiates, other bestial, organisms, namely nightstalkers and dredgers, are, also, found among their ranks. The key factor for this strange allowance lays in the heimrwurms' hatred for the Preservers. Among the wurms' reasoning, much of endemic life has been pitted against itself in an unsustainable distortion of natural laws. To begin rectifying this distortion, the wurms' extend an offer to would-be initiates for them to be gradually parasitized and reacclimated back towards the worldsksins' connections. However, the wurms do not typically force apprehensive kinsfolks into this reformation process. Instead, it is unquestionably left up to the kinsfolks as a collective, where they attempt to coax their uncertain associates into doing such. The Worldskin Query's reformation process is one that requires an unerring dedication to see the process wholistically through as the embedded parasite

effectively works to substitute and to recombine an organisms' genome. Even the oldest, naturalized kinsfolk societies still await for the final stage of their reformation. As a fortuitous byproduct of the process, Flos worms change a kinsfolks' reproductive ability in order to enhance or to unlock the option of actually birthing multiples offspring, where even the babes have full, ontogenetic growth cycles. The nightmare that is the Awakening Cycle for some or the stark reality that one's family or even population may be on a roadmap to extinction commonly makes the Worldskin Query's lifestyles desirable.



Figure 3.10. . Illustration from the *Theatre Tapestry* series, titled *The Circle of Flos*, These lagomorphic, emblematic figures are representations of the kinsfolks as based around the animacytes' simpler, animalistic forms. The membrane extending out from the rabbits' cysts towards the center heart shows it pumping the membrane out in a fanning motion. The upper-right, anthropomorphic symbol is referencing the Frontiersmen's emblem. The overall reformation process with these accompanying elements hints at the Worldskin Query's desire to remove the Preservers' influence over kinsfolks. Figure by Taylor Bardon.

As, again, quite the literal prototype, itself, *Nature's Prototypes* is an ongoing science fictional, narrative series that has grown further since this writing's beginnings. As such, this series' eclectic content has served to evolve past being plainly a dialectic tool or a sensory spectacle. It serves equally well as a personal, didactic tool for approaching much of the original narrative's inherent problems when focusing on worldbuilding through character design and vice-versa. These problems still include how one should compose the narrative's chronology and exposition in relation to its visual design. While action-centric scenarios are greatly articulated throughout this writing, the vignettes' character-driven aspects inarguably need more elaboration as currently there are more character ideas than actual identities. Although, it bears to keep in mind, what this writing's scope was meant to cover compared to what else it diverged into.

Chapter One details *Nature's Prototypes'* greater exposition through several biological inquiries, such as synthetic biology, bioethics, conservation, and pathology. Among each section, or each inquiry, many other analogous, scientific topics and points become integrated into the overall research endeavor. For example, this chapter's first section dealt with introducing BioBricks as the protocell chassis or bioparts that are "standardized, interchangeable, and injectable genetic sequences." This topic transitioned into discussing the series' endemic life through some taxonomical and ecological concepts, where the phyla are described as being bioengineered, artificial, or having some other type of manmade mark. The reoccurring theme with synthetic biology throughout this writing is about the waterborne microbial species, known as the umber cell, which becomes the narrative world's BioBrick. By following a lysogenic model, appearing as a retrovirus, and encysting itself as a compact, spheroidal slime mold, the umber cell's transmutability and immunosuppressive, immuno-evasive capabilities stages much of the Prequel timeline's plot transitioning. These transitions went from the umber cell's initial

discovery by the Preservers, its use as a BioBrick in the Preservers' biotechnology, its use in the establishment of the Anthropoles network's synthetic immunizers, and its eventual hijacking on the aforementioned network as it slowly expanded beyond its abyssal, oceanic origins.

While the umber cell is both the series' unabashed MacGuffin and staple, the character concepts introduced through Chapter One's sections include the following: nightstalkers, dredgers, kinsfolks, The Anachronist (or The Artificer), Preservers, mulviri, aberrations, True Artisans, Conservers, and heimrwurms. The nightstalkers, dredgers, and kinsfolks are the endemic life in the Post-Cataclysm timeline, where the former two are feral beasts and the lattermost are the posthuman. Both nightstalkers and kinsfolks contain a degree of transmutability due to their tampered evolutionary cycles by the Masters. The Masters, namely the Preservers and Conservers, are two groups of transhumans, who preceded the Post-Cataclysm timeline due to their warring against one another during pathogenic outbreaks. The Preservers are led by a collective entity called The Anachronist, who seeks to create a utopian world that is free from the umber cell's scourge. The Anthropoles network's successive hijacking by the umber cell resulted in droves of desensitized masses being violently reawakened into volumetrically convulsing, highly infectious madmen, known as the mulviri.

The aberrations, or first Artisans, were The Anachronist's answer to cull the hordes of mulviri, but they were highly volatile, self-destructive prototypes. Later, these Artisans would arise as warped constructs trying to fulfill The Anachronist's aims by reforming the Anthropoles network. True Artisans became The Anachronist's future surveyors until its reawakening from suspended animation. As such, alongside their Degeneration Agent and shadecraft, these later Artisans were autonomous individuals that harbored more of a hatred for their own kind than other entities. The Conservers were an in between of the mulviri and the aberrations, where they

became collectives of helminth, known as heimrwurms (or wurms). Later, these worms composed the Conservers' colossi and worldskins. Through these adjoining forms, the Conservers displaced or irrevocably damaged the Preservers' remnants. Now, kinsfolks are attempting to recover and to rectify the truth behind their existences, especially in regards to the Awakening cycle.

Within Chapter Two, the narrative's exposition for the Prequel timeline is heavily focused upon. This part details the two demi-beings factions and why they still bore animosity for one another after several centuries have passed. Under the Gaian Groves during the period leading up to the Cataclysm, itself, the Preservers' Project Terminus called for a global reset. Meanwhile, the Conservers sought to recreate life from the necrotic remnants of past mulviri and Artisans. While the war was relatively one-sided, the Conservers did engineer a protective biofilm, their transfigurations, and the animacytes. With the introduction of the True Artisans, the Conservers numbers and plans were effectively, yet temporarily, halted. The introduction of the phasefog alongside the True Artisan's other natural abilities disrupted the Conservers in the past. However, the Conservers gave the Preservers plenty of set-backs in the future timeline, such as the colossi's migration routes separating the main land from a ring of isles, known as the Satellite Isles.

In Chapter Three, *Nature's Prototypes*' narrative mode is analyzed with and against Howard Philip Lovecraft's weird tales. The most striking similarity is his sentiment on stories that involve sensory appeals through describing to his readers that one should "not expect weird tales to conform to any one theoretical model as it is, rather, a heterogeneous, composite body." The Lovecraftian archetype of the troubled hero and the cosmicism they face is slightly comparable to the series' elements, such as the anachronistic elements' growing resurgence drastically altering kinsfolk societies' lifestyles. However, instead of the kinsfolks' limit

experience being madness, they experience a foolhardy heroism. Like the Lovecraftian subject of gaze, the anachronistic reawakening arouses kinsfolks' involuntary memories, where the three True Artisan factions alongside the Worldskin Query (i.e., the Conservers' spiritual surrogates) sought to attract and to radicalize these kinsfolks to their causes. The use of this type of heroism over simple madness is based on demythologizing the more conflated, fantastical, or supernatural elements found in the series, so that even the anachronistic elements, themselves, appear to have some type of grounding and naturalism. Additionally, Lovecraft's sentiment on scientific positivism being an aesthetic medium is another comparable concept, as it is definitely rife with symbols and patterns that, also, extend to possible narrative analogs and allegories.

In Chapter Three's last section, one of the series direct inspiration or at least prominent parallels is analyzed. The primer given is that the series has plenty of inspiration ranging from purely gratuitous displays to multi-faceted, worldbuilding and roleplaying experiences. Within the scope of interactive media, especially video games and even, to a lesser extent, tabletop games, these inspirations provide invaluable, animated references for character-driven settings alongside character personalities. Wizards of the Coast's *Dungeons & Dragons* is an example of a consistently revisited, influential intellectual property, where the primary interest came from Bioware's *Neverwinter Nights* title. The pen-and-paper supplement titled *Elder Evils* provides similar themes to Lovecraft's content, except this book's content deals with physical, combatable manifestations of Lovecraftian Other Gods.

Despite instilling fear into mortal gods, the elder evils, themselves, are still categorical beings, but their overwhelming, supernatural qualities are unmatched. The elder evil Ragnorra, Mother of Monsters, is one such example that deals with conceptualizing the fuller extent of a Lovecraftian horror's guise and motivations. Ragnorra is of particular interest due to her

emphasis on biological deformities, violent transmutations, and abhorrent life. *Nature's Prototypes'* Worldskin Query utilizes the concept of Ragnorra's worldskin as separate, anachronistic entities that seed the world in order to sustain its endemic life rather than outright corrupt it. The Anachronist as the series' main antagonist fulfills that role of attempting to remake creation, itself, as a maddened, godlike being. Overall, Ragnorra partially reinforced some of this faction's aesthetic themes.

Based on those chapter summaries, indeed, this writing mostly covered the series' worldbuilding as related to its character design. Generally, that seems to be the authorial mode that the series uses when trying to find and to link relationships between its factions. Therefore, the character-driven aspects, such as the introduction of prominent faction leaders and historical figures, could be the next major considerations for creating intrigue and continuity in the overall narrative. Making gripping characters who are on par with the likes of the protagonists – the Gloomwings – would help to deflate and to potentially avoid creating too many narrative instances where the audience has to suspend their disbelief for the daring feats or heroics of a few.

Of course, this is one of many routes, and, inarguably, illustrating more loosely could, also, help my ideas flower. Currently, the perceived merits in pursuing this project and near mythos both come from a dilettante's mindset that has an earnest interest in the biological sciences and a tempering practice where the series' current measure of success and investment makes it a curious endeavor to continually pursue. At its basest, *Nature's Prototypes* is a creative sandbox, while, at its highest, *Nature's Prototypes* is a celebratory homage to artistic inspirations and other novel insights.

"De Vos et al. "Pathogens, Disease, and the Social-ecological Resilience of Protected Areas," 3

- ¹ Kaebnick E. Gregory, introduction to *Synthetic Biology and Morality: Artificial Life and the Bounds of Nature*, ed. Thomas H Murray (Cambridge, Massachusetts: The MIT Press, 2013), 4-5.
- ² Gregory, introduction to *Synthetic Biology and Morality*, 4.
- ³ Gregory, introduction to *Synthetic Biology and Morality*, 5.
- ⁴ Gregory, introduction to *Synthetic Biology and Morality*, 1.
- ⁵ Ibid.
- ⁶ Ibid.
- ⁷ Gregory, introduction to *Synthetic Biology and Morality*, 3.
- ⁸ Gregory, introduction to *Synthetic Biology and Morality*, 2.
- ⁹ Gregory, introduction to *Synthetic Biology and Morality*, 4-5.
- ¹⁰ Gregory, introduction to *Synthetic Biology and Morality*, 3.
- ¹¹ Alexandra D. Ginsberg, et al, *Synthetic Aesthetics : Investigating Synthetic Biology's Designs on Nature* (Cambridge, Massachusetts: The MIT Press, 2014), 296.
- ¹² Ibid.
- ¹³ Ginsberg, et al, *Synthetic Aesthetics*, 296-297.
- ¹⁴ Ginsberg, et al, *Synthetic Aesthetics*, 297.
- ¹⁵ Mark A. Bedau and Ben T. Larson, "Lessons from Environmental Ethics about the Intrinsic Value of Synthetic Life," in *Synthetic Biology and Morality: Artificial Life and the Bounds of Nature*, ed. Kaebnick Gregory E. and Thomas H. Murray (Cambridge, Massachusetts: The MIT Press, 2013.), 81.
- ¹⁶ Ibid.
- ¹⁷ Ibid.
- ¹⁸ Bedau and Larson, "Lessons from Environmental Ethics," in *Synthetic Biology and Morality*, 82.
- ¹⁹ Bedau and Larson, "Lessons from Environmental Ethics," in *Synthetic Biology and Morality*, 83.
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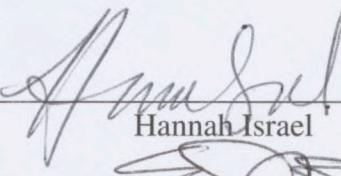
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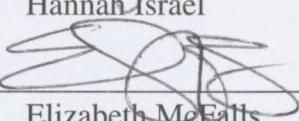
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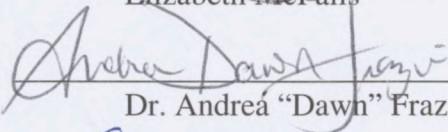
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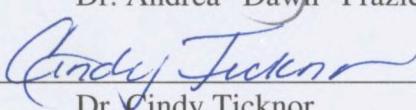
In Partial Fulfillment of the Requirements
for Honors in the Degree of

BACHELOR OF FINE ARTS
STUDIO (DIGITAL ART)
COLLEGE OF THE ARTS

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